```
:L

*/MR.DO.BANK2  LAST EDIT:8/14/83
                              ;
        LST  ON
********************************
* FINAL LISTING FOR ATARI VCS "MR. DO!"
* NTSC VERSION.... 8/14/83
* BY ED ENGLISH OF INDIVIDEO,INC.
********************************
                              ;
* 2ND 4K BANK OF MR.DO! ->
* THIS IS THE MAIN FILE FOR BANK2 OF MR. DO!
********************************
        PAG
********************************
* ATARI 2600 EQUATE FILE       *
********************************
        PUT  MR.DO.VCSDEF
        PAG
********************************
* RAM DEFINITION & EQUATES     *
********************************
        PUT  MR.DO.EQU
BOTVI   =    $202E  — $302E
        ORG  $2FFC
                              ;MICE VECTORS.
        DA   $3000
        DA   END
        PAG
********************************
* TOP VERTICAL INTERVAL        *
********************************
        PUT  MR.DO.TOPVI
        PAG
********************************
* TITLE SCREEN PAINTING FILE   *
********************************
        PUT  MR.DO.TITLE
        PAG
********************************
* ORCHARD SCREEN SETUP FILE    *
********************************
        PUT  MR.DO.DISPLAY
        PAG
********************************
* SOUND & MUSIC CONTROL FILE   *
********************************
        PUT  MR.DO.MUSIC
        PAG
********************************
* POSITION LATCH VALUES FILE   *
********************************
        PUT  POSITION.TABLE
        PAG
********************************
* SOUND & MUSIC TABLES         *
********************************
        PUT  MR.DO.SND  TABLES
        PAG
        OBJ  $8894
        ORG  $3890
********************************
* DIGIT DATA FILE              *
********************************
        PUT  MR.DO.DIGITS
```

```
         PUT  MR.DO.DIGITS
         PAG
         OBJ  $8904
         ORG  $3900
*********************************
* SPRITE B IMAGE DATA FILE      *
*********************************
         PUT  MR.DO.SPRITEB IMAGES
         PAG
*********************************
* ADDRESS PTRS FOR WORDS        *
*********************************
         PUT  MR.DO.ADDRESS PTRS
         PAG
         OBJ  $8A04
         ORG  $3A00
*********************************
* SPRITE A IMAGES (PAGE 1)      *
*********************************
         PUT  MR.DO.SA   IMG1
         PAG
         OBJ  $8B04
         ORG  $3B00
*********************************
* SPRITE A IMAGES (PAGE 2)      *
*********************************
         PUT  MR.DO.SA   IMG2
         PAG
         OBJ  $8C04
         ORG  $3C00
*********************************
* LETTER IMAGE TABLES           *
*********************************
         PUT  MR.DO.LETTER TABLES
         PAG
         OBJ  $8D02
         ORG  $3CFE
*********************************
* ORCHARD SCREEN PAINT FILE     *
*********************************
         PUT  MR.DO.ORCHARD
         PAG
*********************************
* DISPLAY RTN FOR 6 SPRITES     *
*********************************
         PUT  MR.DO.SCORE RTN
         PAG
         OBJ  $9000
         ORG  $3FFC
         DA   INITSW
END
```

OBJ $8CF8
ORG $3CF4
ORCH,

LET $3CF8 ORCH

PAC chksum
A727
A675

```
:PR#0

:ASM
*/MR.DO.BANK2  LAST EDIT:8/14/83
                        ;
********************************
* FINAL LISTING FOR ATARI VCS "MR. DO!"
* NTSC VERSION.... 8/14/83
* BY ED ENGLISH OF INDIVIDEO,INC.
********************************
                        ;
* 2ND 4K BANK OF MR.DO! ->
* THIS IS THE MAIN FILE FOR BANK2 OF MR. DO!
********************************
```

```
*********************************
* ATARI 2600 EQUATE FILE        *
*********************************
         PUT  MR.DO.VCSDEF
*FILE: VCSDEF (ATDEF W/LESS COMMENTS).
*ATARI VCS VIDEO REGS + 6532 RIOT
**********************************
                                ;
ATSYNC   =      $00             ;B1=1 BRINGS GUN HOME.
ATBLNK   =      $01             ;B1=1 TURN GUN OFF.
ATWAIT   =      $02             ;STOP 6507 UNTIL END OF LINE.
ATHORC   =      $03             ;RESET HORIZONTAL COUNTER.
ATACTL   =      $04             ;SPRITE/MISSLE A CONTROL-
ATBCTL   =      $05             ;SAME AS ATACTL FOR SPRITE B.
ATACOL   =      $06             ;SPRITE/MISSLE A COLOR.
ATBCOL   =      $07             ;COLOR SPRITE B
ATFCOL   =      $08             ;FIELD COLOR
ATSCOL   =      $09             ;SCREEN COLOR
ATFCTL   =      $0A             ;FIELD DATA/MISSLE CONTROL
ATFR0    =      $0D             ;B4-7: FIELD REG 0
ATFR1    =      $0E             ;B0-7:FIELD REG 1
ATFR2    =      $0F             ;B0-7:FIELD REG 2
ATSALA   =      $10             ;SPRITE A HORIZ LATCH.
ATSBLA   =      $11
ATAWAV   =      $15             ;CHANNEL A WAVEFORM (B0-B3).
ATBWAV   =      $16             ;CHANNEL B WAVEFORM.
ATADIV   =      $17             ;CHANNEL A FREQ DIVISOR (B0-B4).
ATBDIV   =      $18             ;CHANNEL B FREQ DIVISOR.
ATAVOL   =      $19             ;CHANNEL A VOLUME.(B0-B3).
ATBVOL   =      $1A             ;CHANNEL B VOLUME.
ATADAT   =      $1B             ;SPRITE A DATA.
ATBDAT   =      $1C             ;SPRITE B DATA
ATENMA   =      $1D             ;B1=1 MIS A ENABLED IF ATMATK=0.
ATENMB   =      $1E             ;MIS. B ENABLE.
ATENFM   =      $1F             ;B1= FIELD MIS ENABLE.
ATSAIN   =      $20             ;SPRITE A HORIZ INCREMENT (B4-B7).
ATSBIN   =      $21
ATASEL   =      $25             ;SA FONT SELECT.
ATBSEL   =      $26             ;SB SELECT.
ATFSEL   =      $27             ;FIELD MIS. ENABLE SELECT.
ATMVIN   =      $2A             ;ADDS INCR. TO SPRITE & MISSLE POS
ITIONS.
ATREMV   =      $2B             ;RESET ALL 5 INCREMENT REGS.
ATJBA    =      $3C             ;JOY BUTTON A.
ATJBB    =      $3D             ;JOY BUTTON B.
JOYDAT   =      $280            ;JOYSTICKDATA (PORT A).ALSO PADDLE
 BUTTONS.
                                ;0=CLOSED  1=OPEN
*   JOYDAT BITMASKS-->
*------------------------
JOYBUP   =      $01             ;PLAYER BJOYSTICK UP
JOYBDN   =      $02             ;B DOWN
JOYBLT   =      $04             ;B LEFT
JOYBRT   =      $08             ;B RIGHT
JOYAUP   =      $10             ;A UP
JOYADN   =      $20             ;A DOWN
JOYALT   =      $40             ;A LEFT
JOYART   =      $80             ;A RIGHT
                                ;
                                ;
IOADIR   =      $281            ;PORT A DIRECTION REG.
                                ;FOR EACH BIT,  1=OUTPUT, 0=INPUT.
                                ;
SWITCH   =      $282            ;PANEL SWITCHES (PORT B).
*   BIT MASKS FOR SWITCH-->
*------------------------
```

```
SWIRES   =    $01       ;GAME RESET
SWISEL   =    $02       ;GAME SELECT
SWICOL   =    $08       ;TV TYPE(0=BW, 1=COL)
SWIADF   =    $40       ;PLAYER A DIFFICULTY
SWIBDF   =    $80       ;       B
                        ;
IOBDIR   =    $283      ;PORT B DIRECTION REG.
                        ;
*  6532 READ-ONLY REGS
*----------------------
TIMER    =    $284      ;TIMER
TIME64   =    $296      ;TIMER/64.
```

```
********************************
* RAM DEFINITION & EQUATES     *
********************************
        PUT   MR.DO.EQU
*/MR.DO.EQU LAST EDIT:8/1/83
********************************
*                              *
*   *****      *     *   *     *
*   *   *     * *    ** **     *
*   *****    *****   * * *     *
*   **       *   *   *   *     *
*   * *      *   *   *   *     *
*   *  **    *   *   *   *     *
*                              *
********************************
*    GAME CONTROL RAM          *
*-------------------------------
GAME      =    $80        ;B0-B3 = GAME NUM.
ROUND     =    $81        ;B0-B3 = ROUND NUM.
                          ;
********************************
*         SCORE DATA           *
*-------------------------------
SCORLO    =    $82        ;LO 2 SCORE DIGITS.
SCORHI    =    $83        ;HI 2 SCORE DIGITS.
                          ;
FRAMEL    =    $84        ;FRAME COUNT LO.
FRAMEH    =    $85        ;FRAME COUNT HI.
                          ;
********************************
*        SOUND DATA            *
*-------------------------------
AIDX      =    $86        ;IDX TO CH A SOUND.
BIDX      =    $87        ;IDX TO CH B SOUND.
ADUR      =    $88        ;DURATION OF CH A SOUND.
                          ;ZERO  = GET NEXT NOTE.
                          ;MINUS = NO SOUND ON.
BDUR      =    $89        ;DURATION OF CH B SOUND.
                          ;
********************************
*    MISC.  STATUS  BYTES-->   *
********************************
DIGINV    =    $8A        ;NUM DIGGERS LEFT.
ALPHA     =    $8B        ;ALPHA MONSTER STATUS.
                          ;B0-B2=IDX FOR CHANNEL SELECT.
                          ;B3-B7=LETTER GOTTEN FLAGS.
CHERRYT   =    $8C        ;CHERRY TIMER/NOTE PTR.
                          ;B0-B4=TIMER SINCE LAST CHERRY EAT
EN.
                          ; (0=TIMER EXPIRED).
                          ;B5-B7=NOTE IDX FOR NEXT CHERRY EA
TEN SOUND.
                          ;
APFALL    =    $8D        ;APPLE FALLING IDX.
                          ;B7=1=NO APPLE FALLING.
                          ;B4-B6=WHICH APPLE IS FALLING.
                          ;B0-B3=STAGE TIMER.
ANIM8     =    $8E        ;ANIMATION FLAGS.
                          ;B7=MR DO BEING DRAGGED.
                          ;B6=DIG1 BEING DRAGGED.
                          ;B5=DIG2 BEING DRAGGED.
                          ;B1=ALF MONSTER OUT.
                          ;B0=MR DO IMG.FLIP/FLOP.
FCOLOR    =    $8F        ;FIELD (ORCHARD) COLOR.
********************************
*       CHERRY DATA            *
*-------------------------------
```

```
*-------------------------------
                            ;8 BYTES ($90-$97).
CHERRYC  =     $90          ;CHERRY CONTROLS FOR 8 BANDS.
                            ;B0-B2 = CONTROL VALUE (REP/SPACIN
G).
                            ;B3-B6 = IDX TO CPOF TABLE.
                            ;B7 = NO CHERRY/SOME CHERRY FLAG.
                            ;
*******************************
*     ASYM FIELD DATA         *
*-------------------------------
                            ;32 BYTES ($98-$B7).
FR1L     =     $98          ;8 BANDS OF FR1 LEFT DATA.
FR2L     =     $A0          ;8 BANDS OF FR2 LEFT DATA.
FR2R     =     $A8          ;8 BANDS OF FR1 RIGHT DATA.
FR1R     =     $B0          ;8 BANDS OF FR2 RIGHT DATA.
                            ;
LASTJY   =     $B8          ;LAST LEGAL JOY (MR.DO. DIR).
                            ;
*******************************
*     MISSLE DATA             *
*-------------------------------
MISLN    =     $B9          ;MIS LINENUM.
MSBAND   =     $BA          ;MIS VERT POS.
                            ;B0-B3 = LN OFFSET.
                            ;B4-B6 = BAND NUM.
                            ;B7 = ON/OFF FLAG.
                            ;
MISPOF   =     $BB          ;MIS HORIZ POS.
                            ;B0-B6 = IDX TO POSTBL.
                            ;B7 = MIS AVAILABLE FLAG.
                            ;
MISDIR   =     $BC          ;MIS DIRECTION.
                            ;B0-B1 = MIS DIRECTION.
                            ;ALSO DOUBLES AS TIME
                            ;BEFORE PWRBALL AVAIL AGAIN.
                            ;
                            ;
*******************************
*   MR.DO & DIGGER DATA       *
*-------------------------------
DOBAND   =     $BD
DIGBAND  =     $BE          ;DIG VERT POS.
                            ;B0-B3 = LN OFFSET.
                            ;B4-B6 = BAND NUM.
                            ;B7= ON/OFF FLAG.
                            ;
DOPOF    =     $C0
DIGPOF   =     $C1          ;DIG HORIZ POS.
                            ;B0-B6 = IDX TO POSTBL.
                            ;
DODAT    =     $C3
DIGDAT   =     $C4          ;DIG DATA PTR.
                            ;
DIGDIR   =     $C6          ;DIG CONTROL.
                            ;B0-B1 = DIRECTION.
                            ;B7 = DIGGING FLAG.
DIGSPD   =     $C8          ;DIG SPEED.
                            ;(IDX TO SPDTBL)
                            ;B0= UP SPEED.
                            ;B1= DOWN SPEED.
                            ;B2= LEFT SPEED.
                            ;B3= RIGHT SPEED.
                            ;
DIGTIM   =     $CA          ;DIG STAGE TIMER.
DIGIQ    =     $CC          ;DIG INTELLIGENCE.
```

```
                                    ;DIG INTELLIGENCE.
                                    ;B0-B2=HOW MANY CCELLS TO GO
                                    ;BEFORE TRYING NEW DIR.
MUX       =       $CE               ;NUMO TO 2 FOR MUX MGR.
                                    ;
                                    ;
*********************************
*      APPLE  RAM               *
*********************************
                                    ;8 BYTES ($D0-$D7).
APBAND    =       $D0               ;APPLE POS.
                                    ;B0-B3 = IMG TBL IDX.
                                    ;B4-B6 = BAND NUM.
                                    ;B7 = ON/GONE FLAG.
                                    ;
APPOF     =       $D4               ;APPLE HORIZ POS.
                                    ;B0-B6 = IDX TO POSTBL.
                                    ;B7 = FALLING FLAG.
PWRTIM    =       $D8               ;IDX TO PTIME FOR WHEN BALL AVAIL AGAIN.
MODE      =       $DA               ;GAME MODE.
RANDOM    =       $D9               ;FREE RUNNING RANDOM #.
DOINV     =       $DB               ;NUM MR DO'S LEFT.
                                    ;
*********************************
*   TEMPORARY (SHARED) RAM      *
*--------------------------------
                                    ;36 BYTES ($DC-$FF).
                                    ;
*  RAM USED TO PAINT PLAYFIELD->
*********************************
PTR       =       $DC               ;SA IMG PAGE FLAGS FOR 8 BANDS.
                                    ;
BAND      =       $DD               ;BAND NUM
                                    ;
* SPRITE A (DIG,APPLE) DISPLAY RAM
*   ($DE-$EE)
***********************************
LODATA    =       $DE               ;LO ADDRS SA (8 BANDS).
ADAT      =       $E5               ;LO ADDR FOR SA INDIRECT.
HIDATA    =       $E6               ;HI DATA ADDRS FOR SA.
                                    ;$E7-$EE->
APOF      =       $E7               ;SA POFS.
                                    ;
* SPRITE B (MR DO,CHERRY) DISPLAY RAM
*   ($EF-$FF)
************************************
LODATB    =       $EF               ;LO ADDRS SB (8 BANDS).
BDAT      =       $F6               ;LO ADDR FOR SB INDIRECT.
HIDATB    =       $F7               ;HI DATA ADDR FOR SB.
                                    ;$F8-$FF->
                                    ;**********
BPOF      =       $F8               ;SB POF VALUES FOR 8 BANDS.
                                    ;
                                    ;
*  TEMP VERTICAL INTERVAL RAM
*-----------------------------
TEMP14    =       $EA
TEMP15    =       $EB
TEMP11    =       $EC
TEMP12    =       $ED
TEMP13    =       $EE
TEMP1     =       $EF
TEMP2     =       $F0
TEMP3     =       $F1
TEMP4     =       $F2
TEMP5     =       $F3
```

```
TEMP6    =     $F4
TEMP7    =     $F5
TEMP8    =     $F6
TEMP9    =     $F7
TEMP10   =     $F8
                          ;
* RAM FOR DISPLAYING 6 SPRITES->
* NOTE-THIS RAM PLUS TEMP1,2,3 DOES
* NOT CONFLICT WITH SA DISPLAY RAM.
*********************************
PD100K   =     $F2
PD10K    =     $F4
PD1K     =     $F6
PD100    =     $F8
PD10     =     $FA
PD1      =     $FC
                          ;
```

```
              ********************************
              *                              *
              *  *****    *****    *    *    *
              *  *        *   *    *    *    *
              *  ***      *   *    *    *    *
              *  *        *   *    *    *    *
              *  *        *   **   *    *    *
              *  *****    ***** *  ******    *
              *                              *
              ********************************
              *     COLOR   EQUATES          *
              *------------------------------*
                                        ;
              BLACK     =    0
              WHITE     =    $0E
              RED       =    $22
              YELLOW    =    $1A
              GREEN     =    $D6
              ORANGE    =    $28
              BLUE      =    $9A
              PURPLE    =    $68
              BROWN     =    $12
              GOLD      =    $16
              LBLUE     =    $96
                                        ;
              SCRCOL    =    BLACK      ;BKGND COLOR OF ORCHARDS.
                                        ;
              ********************************
              *  DIRECTION EQUATES ->        *
              *-------------------------------
              * STARTING IDXS FOR EACH DIR IN DIRTBL->
              UPI       =    0
              DOWNI     =    4
              RIGHTI    =    8
              LEFTI     =    12
                                        ;
              * DIRECTION VALUES-->
              UPD       =    0
              DOWND     =    1
              RIGHTD    =    2
              LEFTD     =    3
                                        ;
              ********************************
              *    GAME MODES-->             *
              ********************************
              RESUM     =    $80        ;RESUME PLAY MODE(1 SEC BLACK).
              XTRADO    =    $70        ;EXTRA MR.DO.WON.
              TRACK     =    $50        ;ALT CPMD+ ORCH.
              GAMOVR    =    $40
              SELECT    =    $30        ;SELECT MODE.
              DODEAD    =    $20
              PLAY      =    $10
                                        ;
              ********************************
              *  VERT INTERVAL TIMER EQUATES *
              *-------------------------------
              TOPTIM    =    $A9        ;TOPVI TIMER VALUE.
              MIDTIM    =    $AD        ;TIME TO PAINT SCORE,EXTRA + SET R
AM UP.
                                        ;
              BOTTIM    =    $9F        ;BOTVI TIMER VALUE.
              BOTVI     =    $202E
                        ORG  $2FFC
                                        ;MICE VECTORS.
2FFC: 00 30             DA   $3000
2FFE: FE 3F             DA   END
```

```
                *********************************
                * TOP VERTICAL INTERVAL         *
                *********************************
                         PUT  MR.DO.TOPVI
                */MR.DO.TOPVI  LASTED: 8/14/83
                *
                *********************************
                *APPLES GET 1/3 FRAMES IF 2 DIGS
                *ON ,ELSE 1/2 FRAMES IF 1 DIG ON.
                *********************************
                * BANK SWITCH FROM BOTVI->
                *-------------------------
3000: EA                 NOP
3001: EA                 NOP
3002: EA                 NOP
3003: 4C 12 30           JMP  TOP2        ;CONT W/TOPVI.
3006: EA                 NOP
                * BANK SWITCH TO BOTVI-->
                *-------------------------
                BVISW
3007: AD F8 FF           LDA  $FFF8
300A: 4C 2E 20           JMP  BOTVI   $302E
300D: EA                 NOP
                * SWITCH TO BANK 1 INIT RTN->
                *------------------------------
                INITSW
300E: EA                 NOP
300F: AD F8 FF           LDA  $FFF8
```

```
                TOP2
3012: EA                NOP
3013: 20 07 35          JSR  MUSIC        ;MAINTAIN SOUNDS.

                * KEEP A NUM 0,1,2 FOR MUX MGMT.
                ******************************
3016: A6 CE             LDX  MUX
3018: E8                INX
3019: E0 03             CPX  #3
301B: D0 02             BNE  OK2          ;ONLY 0,1,2.
301D: A2 00             LDX  #0
                OK2
301F: 86 CE             STX  MUX
                                  ;
                ******************************
                * ANIMATION CHECKPOINT-->    *
                ******************************
3021: A5 84             LDA  FRAMEL
3023: 29 0F             AND  #$0F
3025: C9 0F             CMP  #$0F
3027: D0 2B             BNE  ANIM9        ;J NT TIME TO ANIMATE.
                * ANIMATE BOTH DIGGERS->
                ******************************
3029: A2 01             LDX  #1
                TWODIG
302B: B5 C4             LDA  DIGDAT,X
302D: 29 01             AND  #1
302F: F0 05             BEQ  UPPTR
3031: D6 C4             DEC  DIGDAT,X
3033: 4C 38 30          JMP  NDIG
                UPPTR
3036: F6 C4             INC  DIGDAT,X
                NDIG
3038: CA                DEX
3039: 10 F0             BPL  TWODIG
                                  ;
                ******************************
                * ANIMATE MR DO-->           *
                ******************************
303B: A5 8E             LDA  ANIM8
303D: 29 01             AND  #1
303F: AA                TAX
3040: A5 8E             LDA  ANIM8
3042: 49 01             EOR  #1
3044: 85 8E             STA  ANIM8
3046: A0 03             LDY  #3           ;LEFT DIR.
3048: BD 48 32          LDA  MDPTL,X
304B: C4 B8             CPY  LASTJY
304D: F0 03             BEQ  LSTLFT       ;J LAST MOVE WAS LEFT.
304F: BD 4A 32          LDA  MDPTR,X
                LSTLFT
3052: 85 C3             STA  DODAT
                ANIM9
                ******************************
                * DO SCREEN PROCESSING ONLY IF *
                *  ORCHARD IS TO BE SHOWN->    *
                ******************************
3054: A5 DA             LDA  MODE
3056: C9 10             CMP  #PLAY
3058: F0 11             BEQ  ORK
305A: C9 20             CMP  #DODEAD
305C: F0 0D             BEQ  ORK
305E: C9 50             CMP  #TRACK
3060: D0 06             BNE  NORK
3062: A5 85             LDA  FRAMEH
3064: 29 03             AND  #3
```

```
3064: 29 03                  AND  #3
3066: D0 03                  BNE  ORK
                   NORK
3068: 4C 5C 32               JMP  TITLE       ;SKIP IT.
                   ORK
                   ********************************
                   * POS FM FOR CHANNEL SELECT->  *
                   ********************************
306B: A5 8B                  LDA  ALPHA
306D: 29 07                  AND  #7
306F: AA                     TAX
3070: BD EC 3C               LDA  LETPOS,X
3073: A8                     TAY
3074: B9 C2 35               LDA  POSTBL,Y
3077: A2 04                  LDX  #4
3079: 20 D3 3C               JSR  POS
                                              ;
```

```
                 ***********************************
                 * SET UP SA DISPLAY RAM-->        *
                 ***********************************
                 * SET UP NULLS FOR ALL SA RAM-->
                 *-----------------------------------
                 * ALL SA IMGS ARE ON IMG1 PAGE FOR NOW-->
                                            ;
                 SETRAM
307C: A9 00                LDA  #0
307E: 85 DC                STA  PTR         ;INIT HI PAGE TO IMG1.
3080: A0 02                LDY  #2          ;FAKE POF.
3082: A9 E4                LDA  #<NULL1
3084: A2 07                LDX  #7          ;8 BANDS
                 ISA
3086: 95 DE                STA  LODATA,X
3088: 94 E7                STY  APOF,X
308A: CA                   DEX
308B: 10 F9                BPL  ISA
                                            ;
                 * TEST IF FALLING APPLE FRAME->
                 *-----------------------------------
308D: A5 84                LDA  FRAMEL
308F: 29 03                AND  #3          ;BOTH B0+B1 SET?
3091: C9 03                CMP  #3
3093: D0 2C                BNE  NORMAP      ;JP NO.
                                            ;ELSE FALLING APPLE IS ELIGIBLE->
3095: A5 8D                LDA  APFALL
3097: 30 28                BMI  NORMAP      ;JP NONE FALLING.
3099: 4A                   LSR
309A: 4A                   LSR
309B: 4A                   LSR
309C: 4A                   LSR
309D: AA                   TAX              ;X=WHICH AP IS FALLING.
309E: 86 F1                STX  TEMP3       ;SV IT.
30A0: B5 D0                LDA  APBAND,X
30A2: 4A                   LSR
30A3: 4A                   LSR
30A4: 4A                   LSR
30A5: 4A                   LSR
30A6: A8                   TAY              ;AP BAND.
30A7: B5 D0                LDA  APBAND,X    ;GET IMG PTR X2.
30A9: 0A                   ASL
30AA: 29 1F                AND  #$1F
30AC: AA                   TAX
30AD: BD 3C 32             LDA  APIMG,X     ;GET IMG ADDR LO.
30B0: 99 DE 00             STA  LODATA,Y
                                            ;SET PG PTR->
30B3: BD 3D 32             LDA  APIMG+1,X
30B6: A6 F1                LDX  TEMP3       ;GET WHICH APPLE.
30B8: B5 D4                LDA  APPOF,X     ;FALLING AP POF.
30BA: AA                   TAX
30BB: BD C2 35             LDA  POSTBL,X
30BE: 99 E7 00             STA  APOF,Y
                                            ;
                 * SET ALL APPLES UP FOR DISPLAY
                 *  UNLESS FALLING AP ALREADY THERE
                 ***********************************
                 NORMAP
30C1: A2 03                LDX  #3          ;APPLE COUNT.
30C3: 86 DD                STX  BAND        ;TEMP.
                 APRAM
30C5: A6 DD                LDX  BAND
30C7: B5 D0                LDA  APBAND,X
30C9: 30 26                BMI  APR50       ;JP NO APPLE ON.
30CB: 4A                   LSR
30CC: 4A                   LSR
```

```
30CC: 4A                        LSR
30CD: 4A                        LSR
30CE: 4A                        LSR                  ;GET BAND.
30CF: A8                        TAY                  ;AP BAND NUM.
30D0: B9 DE 00                  LDA  LODATA,Y
30D3: C9 E4                     CMP  #<NULL1
30D5: D0 1A                     BNE  APR50           ;JP SOMETHING ELSE THERE.
30D7: B5 D0                     LDA  APBAND,X
30D9: 29 0F                     AND  #$0F            ;KP IMG IDX.
30DB: 0A                        ASL                  ;X 2.
30DC: AA                        TAX
30DD: BD 3C 32                  LDA  APIMG,X
30E0: 99 DE 00                  STA  LODATA,Y
                                                     ;SET PAGE PTR->
30E3: BD 3D 32                  LDA  APIMG+1,X
30E6: A6 DD                     LDX  BAND            ;GET WHICH APPLE.
30E8: B5 D4                     LDA  APPOF,X
30EA: AA                        TAX
30EB: BD C2 35                  LDA  POSTBL,X
30EE: 99 E7 00                  STA  APOF,Y
                        APR50
30F1: C6 DD                     DEC  BAND
30F3: 10 D0                     BPL  APRAM
                                                     ;
```

```
                * SET UP DIGGERS/BADGUYS-->
                ********************************
30F5: 20 8C 31              JSR  COMPET      ;ARE DIGS COMPETING 4 DISPLAY?
30F8: F0 1B                 BEQ  DIG15       ;JP YES.
                                             ;
                * DIGGERS DO NOT COMPETE-->
                ********************************
                ********************************
                * REV 15 MUX CODE-->           *
                * APPLES MUX AT 1/3 OR 1/2 IF  *
                * ONLY 1 DIG COMPETING.        *
                ********************************
30FA: A5 84                 LDA  FRAMEL
30FC: 29 01                 AND  #1
30FE: D0 71                 BNE  DIG50       ;J APPLE FRAME(1/2).
                                             ;
3100: A5 BE                 LDA  DIGBAND
3102: 30 05                 BMI  DIG12       ;J IF OFF.
3104: A2 00                 LDX  #0
3106: 20 C0 31              JSR  TURNON
                DIG12
3109: A5 BF                 LDA  DIGBAND+1
310B: 30 05                 BMI  DIG13       ;J IF OFF.
310D: A2 01                 LDX  #1
310F: 20 C0 31              JSR  TURNON
                DIG13
3112: 4C 89 31              JMP  DIG99
                                             ;
                * ONLY 1 DIGGER CAN BE SHOWN->
                ********************************
                DIG15
                ********************************
                *  REV 15 MUX CODE--> CONT.    *
3115: A5 CE                 LDA  MUX
3117: F0 16                 BEQ  APLFR5      ;J APPLE FRAME(1/3).
                                             ;
3119: A2 01                 LDX  #1
311B: A5 84                 LDA  FRAMEL
311D: 29 02                 AND  #2          ;B1 DIG GETS PRIORITY.
311F: D0 01                 BNE  DIG17       ;JP FOR DIG2.
3121: CA                    DEX
                DIG17
3122: B5 BE                 LDA  DIGBAND,X
3124: 20 C0 31              JSR  TURNON      ;SET UP DIG2.
                DIG18
3127: 4C 89 31              JMP  DIG99
                                             ;
                * APPLES HAVE PRIORITY THIS FRAME->
                * BUT SET UP ANY DIGS POSSIBLE *
                *W/O CONFLICT-->               *
                ********************************
                APLFRM
312A: 20 8C 31              JSR  COMPET      ;DIGS COMPETING?
312D: D0 42                 BNE  DIG50       ;JP NO.
                                             ;ONLY 1 MIGHT BE ABLE TO SHOW.
                APLFR5
312F: A5 84                 LDA  FRAMEL
3131: 29 02                 AND  #2
3133: D0 1E                 BNE  DIG40       ;JP TO TRY DIG2 1ST.
3135: A2 00                 LDX  #0
3137: 20 1E 32              JSR  TRYON       ;TRY TO TURN ON DIG1.
313A: D0 08                 BNE  DIG33       ;JP CAN'T BE TURNED ON.
313C: A2 00                 LDX  #0          ;DIG 1 ON.
313E: 20 C0 31              JSR  TURNON      ;TURN HIM ON.
3141: 4C 89 31              JMP  DIG99
                DIG33
```

```
                  >265  DIG35
3144: A2 01       >266            LDX  #1
3146: 20 1E 32 >267            JSR  TRYON        ;SEE IF DIG 2 CAN BE TURNED ON.
3149: D0 3E       >268            BNE  DIG99        ;JP CAN'T TURN HIM ON EITHER.
314B: A2 01       >269            LDX  #1           ;DIG2 ON.
314D: 20 C0 31 >270            JSR  TURNON       ;TURN HIM ON.
3150: 4C 89 31 >271            JMP  DIG99
                  >272                              ;
                  >273  DIG40
3153: A2 01       >274            LDX  #1
3155: 20 1E 32 >275            JSR  TRYON        ;SEE IF DIG 2 CAN BE TURNED ON.
3158: D0 08       >276            BNE  DIG45        ;JP CAN'T TURN HIM ON.
315A: A2 01       >277            LDX  #1           ;DIG 2 ON.
315C: 20 C0 31 >278            JSR  TURNON
315F: 4C 89 31 >279            JMP  DIG99
                  >280  DIG45
3162: A2 00       >281            LDX  #0
3164: 20 1E 32 >282            JSR  TRYON        ;SEE IF DIG1 CAN BE ON.
3167: D0 20       >283            BNE  DIG99        ;JP CAN'T TURN HIM ON EITHER.
3169: A2 00       >284            LDX  #0           ;DIG 1 ON.
316B: 20 C0 31 >285            JSR  TURNON
316E: 4C 89 31 >286            JMP  DIG99
                  >287                              ;
                  >288  * BOTH DIGS MAY BE SHOWN IF NO APPLE COMPETITION->
                  >289  ********************************
                  >290  DIG50
3171: A2 00       >291            LDX  #0
3173: 20 1E 32 >292            JSR  TRYON        ;SEE IF DIG 1 CAN BE ON..
3176: D0 05       >293            BNE  DIG60        ;JP CAN'T TURN ON.
3178: A2 00       >294            LDX  #0           ;DIG 1 ON.
317A: 20 C0 31 >295            JSR  TURNON       ;TURNON.
                  >296  DIG60
317D: A2 01       >297            LDX  #1
317F: 20 1E 32 >298            JSR  TRYON        ;SEE IF DIG 2 CAN BE ON.
3182: D0 05       >299            BNE  DIG99        ;JP CAN' TURN ON.
3184: A2 01       >300            LDX  #1           ;DIG 2 ON.
3186: 20 C0 31 >301            JSR  TURNON
                  >302                              ;
                  >303  DIG99
3189: 4C 5C 32 >304            JMP  TITLE
```

```
                * DISPLAY SORTING SUBROUTINES->
                *******************************
                * SEE IF 2 DIGGERS COMPETE FOR DISPLAY->
                *******************************
                COMPET
318C: A5 BE               LDA  DIGBAND
318E: 10 01               BPL  COMP1        ;JP ON.
3190: 60                  RTS               ;RET NE.
                COMP1
3191: 29 70               AND  #$70
3193: 85 EF               STA  TEMP1        ;SV BAND.
3195: A5 BF               LDA  DIGBAND+1
3197: 10 01               BPL  COMP15       ;JP ON.
3199: 60                  RTS               ;RET NE.
                COMP15
319A: 29 70               AND  #$70
319C: 38                  SEC
319D: E5 EF               SBC  TEMP1
319F: D0 01               BNE  COMP2        ;JP NOT ON SAME BAND.
31A1: 60                  RTS               ;RET W/EQ.
                COMP2
31A2: C9 10               CMP  #$10
31A4: D0 0C               BNE  COMP3
                                            ;
                * DIG2 IS 1 BAND ABOVE DIG1->
                *******************************
31A6: A5 BF               LDA  DIGBAND+1
31A8: 29 0F               AND  #$0F         ;GET LN.
31AA: D0 03               BNE  CPETE        ;J NZ.
31AC: A9 01               LDA  #1
31AE: 60                  RTS
                CPETE
31AF: A9 00               LDA  #0
31B1: 60                  RTS               ;RET W/EQ.
                COMP3
31B2: C9 F0               CMP  #$F0
31B4: F0 01               BEQ  CPETE2
31B6: 60                  RTS               ;ELSE RET NO COMPETE.
                * DIG1 IS 1 BAND ABOVE DIG2->
                *******************************
                CPETE2
31B7: A5 BE               LDA  DIGBAND
31B9: 29 0F               AND  #$0F

31BB: D0 F2               BNE  CPETE        ;RET W/Y COMPETING.
31BD: A9 01               LDA  #1
31BF: 60                  RTS
                                            ;
                * TURN ON A DIG IN DISPLAY RAM->
                * IN X=IDX TO WHICH DIGGER TO TURN ON.
                *******************************
                TURNON
31C0: B5 C4               LDA  DIGDAT,X     ;GET DIGIMG IDX.
31C2: 29 0F               AND  #$0F
31C4: A8                  TAY
31C5: A9 00               LDA  #0
31C7: C0 04               CPY  #4           ;IS SPRITE ON 1ST PAGE IMG'S?
31C9: 90 02               BCC  FIRST        ;J ON PAGE 1.
31CB: A9 01               LDA  #1
                FIRST
31CD: 85 F1               STA  TEMP3        ;SV MASK FOR PTR.
                                            ;
31CF: B9 4C 32            LDA  DIGIMG,Y
31D2: 85 EF               STA  TEMP1        ;SV DATA PTR.(LO)
31D4: B5 BE               LDA  DIGBAND,X
31D6: 85 F0               STA  TEMP2        ;SV BAND/LN.
```

```
31D6: 85 F0                 STA  TEMP2       ;SV BAND/LN.
31D8: 4A                    LSR
31D9: 4A                    LSR
31DA: 4A                    LSR
31DB: 4A                    LSR
31DC: A8                    TAY              ;BAND.
31DD: 18                    CLC
                 PTRBIT
31DE: 88                    DEY
31DF: 30 06                 BMI  PTRDON
31E1: 18                    CLC
31E2: 06 F1                 ASL  TEMP3       ;SET UP BIT FOR PAGE PTR.
31E4: 4C DE 31              JMP  PTRBIT
                 PTRDON
31E7: A8                    TAY              ;GET BAND NUM.
31E8: A5 F1                 LDA  TEMP3       ;GET ADJUSTED MASK.
31EA: 05 DC                 ORA  PTR
31EC: 85 DC                 STA  PTR
                                             ;
                                             ;SET UP POS FOR DISPLAY.
31EE: B5 C1                 LDA  DIGPOF,X
31F0: AA                    TAX              ;
31F1: BD C2 35              LDA  POSTBL,X
31F4: 99 E7 00              STA  APOF,Y
                                             ;
31F7: A5 F0                 LDA  TEMP2       ;GET BAND/LN.
31F9: 29 0F                 AND  #$0F
31FB: D0 06                 BNE  TURN5       ;JP NOT W/I A BAND.
31FD: A5 EF                 LDA  TEMP1       ;GET DATA PTR.
31FF: 99 DE 00              STA  LODATA,Y
3202: 60                    RTS
                 ********************************
                 * NEED TWO BANDS FOR OBJ-->
                 ********************************
                 TURN5
3203: AA                    TAX              ;X=LN OFFSET.
3204: BD 43 36              LDA  TOPOFF,X
3207: 18                    CLC
3208: 65 EF                 ADC  TEMP1       ;ADD DATA PTR.
320A: 99 DE 00              STA  LODATA,Y    ;SV DIG DATA PTR LO.
320D: A5 EF                 LDA  TEMP1       ;GET DATA PTR.
320F: 38                    SEC
3210: FD 53 36              SBC  BOTOFF,X
3213: 99 DD 00              STA  LODATA-1,Y  ;SV DIG DATA PTR LO.
3216: A5 F1                 LDA  TEMP3       ;GET PTR MASK.
3218: 4A                    LSR              ;SHIFT FOR DOWN 1 BAND.
3219: 05 DC                 ORA  PTR
321B: 85 DC                 STA  PTR
321D: 60                    RTS
                 * TEST IF NULLS WHERE A DIG IS->
                 * IN X= WHICH DIG TO TEST FOR.
                 ********************************
                 TRYON
321E: B5 BE                 LDA  DIGBAND,X
3220: 10 01                 BPL  TRY1        ;JP IF ON.
3222: 60                    RTS              ;RET NE.
                 TRY1
3223: 4A                    LSR
3224: 4A                    LSR
3225: 4A                    LSR
3226: 4A                    LSR
3227: A8                    TAY              ;BAND.
3228: B5 BE                 LDA  DIGBAND,X
322A: 29 0F                 AND  #$0F        ;W/I 1 BAND?
322C: F0 08                 BEQ  TRY9        ;JP YES.
322E: B9 DD 00              LDA  LODATA-1,Y
```

```
3231: C9 E4              CMP  #<NULL1
3233: F0 01              BEQ  TRY9        ;JP LOWER BAND OK.
3235: 60                 RTS
                   TRY9
3236: B9 DE 00           LDA  LODATA,Y
3239: C9 E4              CMP  #<NULL1
323B: 60                 RTS
                                          ;
```

```
                 * APPLE IMAGE PTR TABLE->
                 *******************************
                 * BYTE 1=IMG ADR LO, BYTE 2=IMG PAGE.
                 APIMG
                                               ;APPLE SITTING->
323C: 00 00                DFB  <APPLE1,0
                                               ;AP ROCKING LEFT->
323E: 0E 00                DFB  <APPLE2,0
                                               ;APPLE ROCKING RIGHT->
3240: 1C 00                DFB  <APPLE3,0
                                               ;APPLE FALLING ->
3242: 00 00                DFB  <APPLE1,0
                                               ;APPLE BREAKING STAGE 1.->
3244: 2A 00                DFB  <APPLE4,0
                                               ;APPLE BREAKING STAGE 2->
3246: 38 00                DFB  <APPLE5,0
                                               ;
                                               ;DO FACES LEFT->
                 MRDOIMG
                 MDPTL
3248: 22 44                DFB  <MRDOLL,<MRDORL
                                               ;DO FACES RIGHT->
                 MDPTR
324A: 66 88                DFB  <MRDORR,<MRDOLR
                 DIGIMG
324C: 4F                   DFB  <DIGLR
324D: 70                   DFB  <DIGLL
                                               ;REALLY DIGGING IMG->
324E: 92                   DFB  <DUGLL
324F: B4                   DFB  <DUGLR
                                               ;
                 * DIGGING FACING LEFT->
3250: 00                   DFB  <DUGRR
3251: 20                   DFB  <DUGRL
                                               ;
                 LETIMG
3252: 49                   DFB  <LETRE         ;LETTER E
3253: 49                   DFB  <LETRE
3254: 6A                   DFB  <LETRX         ;LETTER X
3255: 6A                   DFB  <LETRX
3256: 8B                   DFB  <LETRT         ;LETTER T
3257: 8B                   DFB  <LETRT
3258: AC                   DFB  <LETRR         ;LETTER R
3259: AC                   DFB  <LETRR
325A: CD                   DFB  <LETRA         ;LETTER A
325B: CD                   DFB  <LETRA
                                               ;
```

```
                 ********************************
                 * TITLE SCREEN PAINTING FILE   *
                 ********************************
                        PUT  MR.DO.TITLE
                 */MR.DO.TITLE  LASTED 8/2/83.
                 ********************************
                 TITLE
                 ENDMID
325C: AD 84 02          LDA  TIMER
325F: 30 FB             BMI  ENDMID
                                          ;
                 *  TURN GUN BACK ON-->
                 ********************************
3261: A9 40             LDA  #$40
3263: 85 02             STA  ATWAIT
3265: 85 01             STA  ATBLNK       ;GUN ON.
3267: A9 AD             LDA  #MIDTIM
                                          ;
3269: 8D 96 02          STA  TIME64       ;SET TIME INCASE ORCHARD SCREEN.
326C: A5 DA             LDA  MODE
326E: C9 30             CMP  #SELECT
3270: D0 0D             BNE  TEST2
                                          ;
                 *  "MR DO!   GAME   1" -->
                 ********************************
3272: A9 B6             LDA  #<MRDOT1
3274: A2 C3             LDX  #<GAMETB
3276: A0 BD             LDY  #<NULLTB
3278: 4C CE 32          JMP  TITL12
                                          ;
                 *  MR DO DANCE SPD BY GAME NUM->
                 GAMSPD
327B: 20 10 08
327E: 04                DFB  $20,$10,$08,$04
                                          ;
                 TEST2
327F: C9 10             CMP  #PLAY
3281: F0 1A             BEQ  ORKSCR
3283: C9 20             CMP  #DODEAD
3285: F0 16             BEQ  ORKSCR
                                          ;
3287: C9 40             CMP  #GAMOVR
3289: F0 34             BEQ  TITLE1       ;JP IF GAME OVER SCREEN.
328B: C9 70             CMP  #XTRADO
328D: F0 11             BEQ  TITLE0
                                          ;
328F: C9 80             CMP  #RESUM
3291: F0 60             BEQ  TITLE3
                                          ;
                                          ;
3293: C9 50             CMP  #TRACK
3295: D0 06             BNE  ORKSCR       ;J N.
                                          ;
3297: A5 85             LDA  FRAMEH
3299: 29 03             AND  #3
329B: F0 4D             BEQ  TITLE2       ;SHOW COLECO PRES MRDO.
                 ORKSCR
329D: 4C 8B 33          JMP  ORCHARD
                                          ;
                 * SET UP FOR "EXTRA MR DO!"
                 ********************************
                 TITLE0
32A0: A9 CF             LDA  #<LETTBL   ;EXTRA.
32A2: 85 EC             STA  TEMP11
32A4: A9 B6             LDA  #<MRDOT1   ;MR.DO!
32A6: 85 ED             STA  TEMP12
32A8: A9 BD             LDA  #<NULLTB   ;NULL
```

```
32A8: A9 BD          LDA  #<NULLTB   ;NULL
32AA: 85 EE          STA  TEMP13
                                     ;ANIM8 MR DO IMG->
32AC: A0 66          LDY  #<MRDORR
32AE: A5 84          LDA  FRAMEL
32B0: 29 10          AND  #$10
32B2: D0 02          BNE  IMG5
32B4: A0 88          LDY  #<MRDOLR
             IMG5
32B6: 84 EA          STY  TEMP14
32B8: A9 39          LDA  #>MRDOLL
32BA: 85 EB          STA  TEMP15
32BC: 4C 03 33       JMP  TITLE9
                                     ;
             *   TITLE  SCREEN
             ******************************
             TITLE1
32BF: A5 85          LDA  FRAMEH
32C1: 29 03          AND  #3
32C3: F0 03          BEQ  TITL11
32C5: 4C 8B 33       JMP  ORCHARD
                                     ;
             *   "GAME   OVER" SCREEN->
             ******************************
             TITL11
32C8: A9 BD          LDA  #<NULLTB   ;NULL
32CA: A2 C3          LDX  #<GAMETB   ;GAME
32CC: A0 C9          LDY  #<OVERTB   ;OVER
                                     ;
             *  SET UP DANCE SPEED-->
             ******************************
             TITL12
32CE: 85 EC          STA  TEMP11
32D0: 86 ED          STX  TEMP12
32D2: 84 EE          STY  TEMP13
32D4: A0 22          LDY  #<MRDOLL
32D6: A5 84          LDA  FRAMEL
32D8: A6 80          LDX  GAME
32DA: 3D 7B 32       AND  GAMSPD,X
32DD: D0 02          BNE  IMG6
32DF: A0 44          LDY  #<MRDORL
             IMG6
32E1: 84 EA          STY  TEMP14
32E3: A9 39          LDA  #>MRDOLL
32E5: 85 EB          STA  TEMP15
32E7: 4C 03 33       JMP  TITLE9
                                     ;
             *  "COLECO PRESENTS MR DO!" SCREEN->
             ******************************
             TITLE2
32EA: A9 AA          LDA  #<COLECO   ;COLECO
32EC: A2 B0          LDX  #<PRESNT   ;PRESENTS
32EE: A0 B7          LDY  #<MRDOTB   ;MRDO.
32F0: 4C CE 32       JMP  TITL12
             TITLE3
32F3: A9 BD          LDA  #<NULLTB
32F5: 85 EC          STA  TEMP11
32F7: 85 ED          STA  TEMP12
32F9: 85 EE          STA  TEMP13
32FB: A9 34          LDA  #<NULLB
32FD: 85 EA          STA  TEMP14
32FF: A9 39          LDA  #>NULLB
3301: 85 EB          STA  TEMP15     ;NO DO.
```

```
                   TITLE9
                                                  ;
3303: A9 0E                       LDA  #WHITE
3305: 85 06                       STA  ATACOL
3307: 85 07                       STA  ATBCOL
                                                  ;
                   *  SET UP FOR TOP WORD -->
                   ******************************
3309: A5 EC                       LDA  TEMP11     ;GET TBL PTR LO.
330B: A2 3C                       LDX  #>DATA2
330D: 20 DB 39                    JSR  SPRIT6
                                                  ;
3310: A2 17                       LDX  #23        ;
                   HOLDUP
3312: 85 02                       STA  ATWAIT
3314: CA                          DEX
3315: 10 FB                       BPL  HOLDUP
                                                  ;
3317: 20 8B 3F                    JSR  SCORE
                                                  ;
                                                  ;
331A: A9 98                       LDA  #$98
331C: 85 06                       STA  ATACOL
331E: 85 07                       STA  ATBCOL
                                                  ;
                   *  SET UP FOR MIDDLE WORD-->
                   ******************************
3320: A5 ED                       LDA  TEMP12
3322: A2 3C                       LDX  #>DATA2
3324: 20 DB 39                    JSR  SPRIT6
                                                  ;
3327: A2 14                       LDX  #20
                   HOLD7
3329: 85 02                       STA  ATWAIT
332B: CA                          DEX
332C: 10 FB                       BPL  HOLD7
                                                  ;
332E: 20 8B 3F                    JSR  SCORE
                                                  ;
3331: A9 28                       LDA  #$28
3333: 85 06                       STA  ATACOL
3335: 85 07                       STA  ATBCOL
                                                  ;
                   * SET UP FOR BOTTOM WORD-->
                   ******************************
3337: A5 EE                       LDA  TEMP13
3339: A2 3C                       LDX  #>DATA2
333B: 20 DB 39                    JSR  SPRIT6
                                                  ;
333E: A2 1C                       LDX  #28
                   HOLD9
3340: 85 02                       STA  ATWAIT
3342: A5 DA                       LDA  MODE
3344: C9 30                       CMP  #SELECT
3346: D0 0B                       BNE  NOTSEL
                                                  ;SET UP A DIGIT->
3348: A4 80                       LDY  GAME       ;GET NUM.
334A: B9 E9 38                    LDA  SCORTB+1,Y
334D: 85 F8                       STA  PD100
334F: A9 38                       LDA  #>DIGITS
3351: 85 F9                       STA  PD100+1
                   NOTSEL
3353: CA                          DEX
3354: 10 EA                       BPL  HOLD9
                                                  ;
3356: 20 8B 3F                    JSR  SCORE
```

```
3356: 20 8B 3F           JSR  SCORE
                                            ;
3359: A2 2D              LDX  #45
               HOLD10
335B: 85 02              STA  ATWAIT
335D: CA                 DEX
335E: 10 FB              BPL  HOLD10
                                            ;
                                            ;
3360: A9 0E              LDA  #WHITE
3362: 85 06              STA  ATACOL
                                            ;
               * PAINT A MR DO IMAGE--->
               ********************************
3364: A9 00              LDA  #0            ;PAINT A DO.
3366: 85 25              STA  ATASEL
3368: 85 26              STA  ATBSEL        ;SELECT IMMEDIATE MODE.
336A: 85 04              STA  ATACTL
                                            ;
336C: A4 C0              LDY  DOPOF
336E: B9 C2 35           LDA  POSTBL,Y
3371: A2 00              LDX  #0            ;SA.
3373: 20 D3 3C           JSR  POS
3376: A0 0F              LDY  #15
               DO1
3378: B1 EA              LDA  (TEMP14),Y ;GET IMG.
337A: 85 02              STA  ATWAIT
337C: 85 1B              STA  ATADAT
337E: 88                 DEY
337F: 10 F7              BPL  DO1
                                            ;
                                            ;DELAY
3381: A2 0F              LDX  #15
               WAIT5
3383: 85 02              STA  ATWAIT
3385: CA                 DEX
3386: 10 FB              BPL  WAIT5
                                            ;
3388: 4C 07 30           JMP  BVISW
```

```
                ***********************************
                * ORCHARD SCREEN SETUP FILE       *
                ***********************************
                         PUT  MR.DO.DISPLAY
                * MR.DO.DISPLAY LASTED 8/13/83.
                ***********************************
                *        MAIN DISPLAY
                * SHOW SCORE,EXTRA & ORCHARD->
                ***********************************
                *
                *    PAINT 6 DIGIT SCORE
                *--------------------
                ORCHARD
338B: 85 2B              STA  ATREMV      ;CLR INCR FOR FM.
                                          ;
338D: A9 38              LDA  #>DATA1
338F: 85 F3              STA  PD100K+1
3391: 85 F5              STA  PD10K+1
3393: 85 F7              STA  PD1K+1
3395: 85 F9              STA  PD100+1
3397: 85 FB              STA  PD10+1
3399: 85 FD              STA  PD1+1
                                          ;
339B: A9 90              LDA  #<ZERO
339D: 85 FC              STA  PD1         ;LO DIG = 0.
339F: A9 E0              LDA  #<BLANK
33A1: 85 F2              STA  PD100K      ;HI DIG=BLANK.
33A3: A5 82              LDA  SCORLO
33A5: 29 0F              AND  #$0F
33A7: A8                 TAY
33A8: B9 E8 38           LDA  SCORTB,Y
33AB: 85 FA              STA  PD10
33AD: A5 82              LDA  SCORLO
33AF: 4A                 LSR
33B0: 4A                 LSR
33B1: 4A                 LSR
33B2: 4A                 LSR
33B3: A8                 TAY
33B4: B9 E8 38           LDA  SCORTB,Y
33B7: 85 F8              STA  PD100
                                          ;
33B9: A5 83              LDA  SCORHI
33BB: 29 0F              AND  #$0F
33BD: A8                 TAY
33BE: B9 E8 38           LDA  SCORTB,Y
33C1: 85 F6              STA  PD1K
33C3: A5 83              LDA  SCORHI
33C5: 4A                 LSR
33C6: 4A                 LSR
33C7: 4A                 LSR
33C8: 4A                 LSR
33C9: A8                 TAY
33CA: B9 E8 38           LDA  SCORTB,Y
33CD: 85 F4              STA  PD10K
                                          ;
33CF: A9 1A              LDA  #YELLOW
33D1: 85 06              STA  ATACOL
33D3: 85 07              STA  ATBCOL
33D5: 20 8B 3F           JSR  SCORE       ;PAINT NUMBERS
                                          ;
                * PAINT "EXTRA" W/REV VIDEO FOR
                *  LETTERS ALREADY GOTTEN-->
                ***********************************
33D8: A0 05              LDY  #5
33DA: A2 0B              LDX  #11
33DC: A5 8B              LDA  ALPHA       ;GET ALF FLAGS
```

```
33DC: A5 BB                 LDA  ALPHA      ;GET ALF FLAGS.
33DE: 85 EF                 STA  TEMP1
                 ALFSET
33E0: A9 3C                 LDA  #>DATA2
33E2: 95 F2                 STA  PD100K,X
33E4: CA                    DEX
33E5: 06 EF                 ASL  TEMP1
33E7: B9 CF 39              LDA  LETTBL,Y
33EA: 90 03                 BCC  NORM
33EC: B9 D5 39              LDA  REVTBL,Y   ;GET REV VIDEO.
                 NORM
33EF: 95 F2                 STA  PD100K,X
33F1: CA                    DEX
33F2: 88                    DEY
33F3: 10 EB                 BPL  ALFSET
                                            ;
                 *PAINT CHANNEL SELECT W/FLD MIS->
                 ******************************
33F5: A9 02                 LDA  #2
33F7: 85 02                 STA  ATWAIT
33F9: 85 1F                 STA  ATENFM     ;FM ON.
                                            ;
33FB: A9 FF                 LDA  #$FF
33FD: 85 0F                 STA  ATFR2      ;THIN LINE.
33FF: A9 96                 LDA  #$96       ;DRK BLUE.
3401: 85 08                 STA  ATFCOL
3403: A9 1C                 LDA  #$1C
3405: 85 06                 STA  ATACOL
3407: 85 07                 STA  ATBCOL
3409: A9 00                 LDA  #0
                                            ;
340B: 85 02                 STA  ATWAIT
340D: 85 0F                 STA  ATFR2
                                            ;DO 6 SPRITES W/O POS->
340F: 20 AF 3F              JSR  SCORE1     ;PAINT EXTRA.
                                            ;
3412: A9 FF                 LDA  #$FF
3414: 85 02                 STA  ATWAIT
3416: 85 0F                 STA  ATFR2      ;THIN LINE.
3418: A9 00                 LDA  #0
                                            ;
341A: 85 1F                 STA  ATENFM     ;FM OFF.
341C: A9 00                 LDA  #0
341E: 85 25                 STA  ATASEL
3420: 85 26                 STA  ATBSEL     ;RESET SELECT REGS.
3422: 85 04                 STA  ATACTL
3424: 85 05                 STA  ATBCTL
                                            ;
3426: 85 02                 STA  ATWAIT
3428: A9 00                 LDA  #BLACK
342A: 85 08                 STA  ATFCOL     ;THIN LINE OFF.
                                            ;
                                            ;
                 *  POS SA MIS FOR POWERBALL->
                 ******************************
342C: A5 DA                 LDA  MODE
342E: C9 10                 CMP  #PLAY
3430: D0 0E                 BNE  NOPWR
3432: A5 BA                 LDA  MSBAND     ;PWRBALL ON?
3434: 30 0A                 BMI  NOPWR      ;J N.
3436: A4 BB                 LDY  MISPOF
3438: B9 C2 35              LDA  POSTBL,Y
343B: A2 02                 LDX  #2
343D: 20 D3 3C              JSR  POS        ;POS SA.
                 NOPWR
                                            ;
```

```
                **********************************
                * SET UP SPRITE B DISPLAY RAM    *
                **********************************
                                        ;
                * SET UP CHERRY DISPLAY RAM-->
                *----------------------------------
3440: A2 07              LDX  #7
                ICHERRY
                                        ;
3442: B5 90              LDA  CHERRYC,X
3444: 10 16              BPL  CHERRY5     ;JP IF NO CHERRY IN BAND.
                * THERE IS A CHERRY IN BAND,SET UP POF+IMAGE PTR.->
                **********************************
3446: 29 7F              AND  #$7F
3448: 4A                 LSR
3449: 4A                 LSR
344A: 4A                 LSR
344B: A8                 TAY              ;GIVE Y 4 BIT IDX TO POS TABLE.
344C: B9 63 36           LDA  CHRPOS,Y    ;GET IDX TO POS TBL.
344F: A8                 TAY
3450: B9 C2 35           LDA  POSTBL,Y
3453: 95 F8              STA  BPOF,X      ;CHERRY POS.
3455: A9 00              LDA  #<CHERRY
3457: 95 EF              STA  LODATB,X
3459: 4C 64 34           JMP  CDAT
                                        ;
                * MUX CHERRY (SB)W/NULL FOR NOW.
                                        ;
                * IF MR DO ON BAND USE HIM,ELSE USE BLANK(NULL)->
                **********************************
                CHERRY5
345C: A9 02              LDA  #02         ;FAKE POF.
345E: 95 F8              STA  BPOF,X
3460: A9 34              LDA  #<NULLB     ;NULL IMG ON SB IMG PAGE.
3462: 95 EF              STA  LODATB,X
                CDAT
3464: CA                 DEX
3465: 10 DB              BPL  ICHERRY
                                        ;
```

```
                ***********************************
                * HANDLE MR.DO MUX-->             *
                ***********************************
                * PUT MR DO RAM IN PLACE-->
3467: A5 BD              LDA  DOBAND
3469: 10 03              BPL  FTEST        ;JP IF DO IS ON.
346B: 4C E1 34           JMP  PWAIT
                FTEST
346E: A5 84              LDA  FRAMEL
3470: 29 01              AND  #1
3472: F0 03              BEQ  DOTIME       ;JP MR DO ON THIS FRAME.
3474: 4C A9 34           JMP  NODO         ;MD NOT ON THIS FRAME.
                DOTIME
3477: A5 BD              LDA  DOBAND
3479: 4A                 LSR
347A: 4A                 LSR
347B: 4A                 LSR
347C: 4A                 LSR
347D: 29 07              AND  #7
347F: AA                 TAX               ;MR DO BAND NUM.
3480: A4 C0              LDY  DOPOF        ;GET MD POS TBL IDX.
3482: B9 C2 35           LDA  POSTBL,Y
3485: 95 F8              STA  BPOF,X
                                           ;
                * DECIDE IF 2 BANDS ARE NEEDED->
3487: A5 BD              LDA  DOBAND
3489: 29 0F              AND  #$0F         ;KEEP DATA OFFSET.
348B: F0 15              BEQ  BAND1        ;JP NO OFFSET.
348D: A8                 TAY
348E: B9 43 36           LDA  TOPOFF,Y
3491: 18                 CLC
3492: 65 C3              ADC  DODAT
3494: 95 EF              STA  LODATB,X     ;SET UP DATA PTR HI BAND.
                                           ;
3496: CA                 DEX
3497: A5 C3              LDA  DODAT        ;DATA PTR LO.
3499: 38                 SEC
349A: F9 53 36           SBC  BOTOFF,Y
349D: 95 EF              STA  LODATB,X     ;SET UP DATA PTR LO BAND.
349F: 4C E1 34           JMP  PWAIT
                BAND1
34A2: A5 C3              LDA  DODAT        ;MD DATA PTR LO.
34A4: 95 EF              STA  LODATB,X
34A6: 4C E1 34           JMP  PWAIT
                                           ;
                * NOT MR DO NORMAL FRAME-->
                ***********************************
                NODO
34A9: A5 BD              LDA  DOBAND
34AB: 4A                 LSR
34AC: 4A                 LSR
34AD: 4A                 LSR
34AE: 4A                 LSR
34AF: 29 07              AND  #7           ;GET BAND.
34B1: AA                 TAX
34B2: B5 90              LDA  CHERRYC,X
34B4: 30 2B              BMI  PWAIT        ;JP CHERRY ON THIS BAND.
34B6: A5 BD              LDA  DOBAND
34B8: 29 0F              AND  #$0F
34BA: F0 1A              BEQ  MDON         ;JP IF LN=0(TURN MD ON.)
34BC: A8                 TAY               ;Y=LN OFFSET.
34BD: CA                 DEX               ;1 BAND LESS.
34BE: B5 90              LDA  CHERRYC,X
34C0: 30 1F              BMI  PWAIT        ;JP CHERRY ON IN LOWER BAND.
34C2: E8                 INX
34C3: B9 43 36           LDA  TOPOFF,Y
```

```
34C6: 18                 CLC
34C7: 65 C3              ADC  DODAT
34C9: 95 EF              STA  LODATB,X
34CB: A5 C3              LDA  DODAT
34CD: 38                 SEC
34CE: F9 53 36           SBC  BOTOFF,Y
34D1: 95 EE              STA  LODATB-1,X ;LOWER BAND IMG.
34D3: 4C DA 34           JMP  MDPOF
                   MDON
34D6: A5 C3              LDA  DODAT
34D8: 95 EF              STA  LODATB,X    ;MD IMG.
                   MDPOF
34DA: A4 C0              LDY  DOPOF
34DC: B9 C2 35           LDA  POSTBL,Y
34DF: 95 F8              STA  BPOF,X
                                ;
```

```
                PWAIT
                PW3
34E1: AD 84 02               LDA   TIMER
34E4: 30 FB                  BMI   PW3
                                               ;
34E6: 85 02                  STA   ATWAIT
                                               ;
34E8: A9 80                  LDA   #$80
34EA: 85 0D                  STA   ATFR0       ;BORDER.
34EC: A9 FF                  LDA   #$FF
34EE: 85 0E                  STA   ATFR1
34F0: 85 0F                  STA   ATFR2
34F2: A5 8F                  LDA   FCOLOR
                                               ;FLD ON->
34F4: 85 08                  STA   ATFCOL
                                               ;FLD OFF 2 LINES->
34F6: 85 02                  STA   ATWAIT
34F8: A9 00                  LDA   #BLACK
34FA: 85 08                  STA   ATFCOL
34FC: 85 02                  STA   ATWAIT
                                               ;
34FE: A9 39                  LDA   #>SBIMG     ;PAGE OF SB IMAGES.
3500: 85 F7                  STA   HIDATB      ;SET SB HI DATA PTR.
                                               ;ALL ON SAME PG FOR NOW.
3502: 85 2B                  STA   ATREMV      ;CLR INCR.
                                               ;
                ********************************
                * GO  PAINT ORCHARD + INVENTORY-->
                ********************************
3504: 4C FE 3C               JMP   PAINT       ;PAINT THE SCREEN.
```

```
                *********************************
                * SOUND & MUSIC CONTROL FILE    *
                *********************************
                         PUT  MR.DO.MUSIC
                */ MR.DO.MUSIC LASTED: 7/26/83.
                *********************************
                * SOUND CONTROL ROUTINE-->      *
                *********************************
3507: A4 89     MUSIC    LDY  BDUR
3509: 10 03              BPL  MUS2          ;JP IF MUSIC ON.
350B: 4C 91 35           JMP  SOUND
                MUS2
350E: D0 3A              BNE  MUS25         ;JP NOTE NOT DONE.
3510: A4 87              LDY  BIDX
3512: A2 0C              LDX  #$0C
3514: B9 2D 37           LDA  BMUSFW,Y
3517: C9 FF              CMP  #$FF          ;SONG DONE?
3519: F0 26              BEQ  MUS15         ;JP YES.
351B: B9 2D 37           LDA  BMUSFW,Y
351E: 30 02              BMI  MUS5
3520: A2 04              LDX  #$04
                MUS5
3522: 86 16              STX  ATBWAV        ;NEW WAVE.
3524: 85 18              STA  ATBDIV        ;NEW FREQ,
3526: B9 8A 37           LDA  BMUSVT,Y
3529: 29 3F              AND  #$3F
352B: 85 89              STA  BDUR
352D: B9 8A 37           LDA  BMUSVT,Y
3530: 4A                 LSR
3531: 4A                 LSR
3532: 4A                 LSR
3533: 4A                 LSR
3534: 4A                 LSR
3535: 4A                 LSR
3536: AA                 TAX
3537: BD E7 37           LDA  VOLTBL,X
353A: 85 1A              STA  ATBVOL        ;NEW VOL.
353C: E6 87              INC  BIDX
353E: 4C 4C 35           JMP  MUS50         ;GO DO CH.A.
                MUS15
3541: A2 00              LDX  #0
3543: 86 1A              STX  ATBVOL        ;SONG OVER.
3545: CA                 DEX
3546: 86 89              STX  BDUR
3548: 30 02              BMI  MUS50
                MUS25
354A: C6 89              DEC  BDUR
                                            ;DO CH. A MUSIC-->
                MUS50
354C: A4 88              LDY  ADUR
354E: 30 71              BMI  SND99         ;JP NOT ON.
3550: D0 3A              BNE  MUS75         ;JP NOTE NOT DONE.
3552: A4 86              LDY  AIDX
3554: A2 0C              LDX  #$0C
3556: B9 73 36           LDA  AMUSFW,Y
3559: C9 FF              CMP  #$FF          ;SONG DONE?
355B: F0 26              BEQ  MUS65         ;JP YES.
355D: B9 73 36           LDA  AMUSFW,Y
3560: 30 02              BMI  MUS55
3562: A2 04              LDX  #$04
                MUS55
3564: 86 15              STX  ATAWAV        ;NEW WAVE.
3566: 85 17              STA  ATADIV        ;NEW FREQ.
3568: B9 D0 36           LDA  AMUSVT,Y
356B: 29 3F              AND  #$3F
356D: 85 88              STA  ADUR          ;NEW DUR.
```

```
                            STA   ADUR          ;NEW DUR.
356F: B9 D0 36              LDA   AMUSVT,Y
3572: 4A                    LSR
3573: 4A                    LSR
3574: 4A                    LSR
3575: 4A                    LSR
3576: 4A                    LSR
3577: 4A                    LSR
3578: AA                    TAX
3579: BD E7 37              LDA   VOLTBL,X
357C: 85 19                 STA   ATAVOL
357E: E6 86                 INC   AIDX
3580: 4C C1 35              JMP   SND99
                    MUS65
3583: A2 00                 LDX   #0
3585: 86 19                 STX   ATAVOL
3587: CA                    DEX
3588: 86 88                 STX   ADUR          ;SONG OFF.
358A: D0 35                 BNE   SND99
                    MUS75
358C: C6 88                 DEC   ADUR
358E: 4C C1 35              JMP   SND99
                    ********************************
                    *  NO MUSIC PLAYING,CHK SOUNDS *
                    ********************************
                    SOUND
3591: A4 88                 LDY   ADUR
3593: 30 2C                 BMI   SND99         ;JP NO SOUND ON.
3595: D0 28                 BNE   SND80         ;JP SOUND NOT DONE.
3597: A4 86                 LDY   AIDX
3599: B9 EB 37              LDA   SNDTBL,Y
359C: 85 19                 STA   ATAVOL
359E: D0 06                 BNE   SND5          ;JP SND NOT OVER.
35A0: A9 FF                 LDA   #$FF
35A2: 85 88                 STA   ADUR
35A4: D0 1B                 BNE   SND99
                    SND5
35A6: 4A                    LSR
35A7: 4A                    LSR
35A8: 4A                    LSR
35A9: 4A                    LSR
35AA: 85 15                 STA   ATAWAV        ;NEW WAV.
35AC: B9 EC 37              LDA   SNDTBL+1,Y
35AF: 85 17                 STA   ATADIV        ;NEW FREQ.
35B1: 4A                    LSR
35B2: 4A                    LSR
35B3: 4A                    LSR
35B4: 4A                    LSR
35B5: 4A                    LSR
35B6: 85 88                 STA   ADUR          ;NEW DUR.
35B8: E6 86                 INC   AIDX
35BA: E6 86                 INC   AIDX          ;UP NOTE PTR.
35BC: 4C C1 35              JMP   SND99
                    SND80
35BF: C6 88                 DEC   ADUR
                    SND99
35C1: 60                    RTS
```

```
               *********************************
               * POSITION LATCH VALUES FILE    *
               *********************************
                        PUT  POSITION.TABLE
               */ POSITION VALUES,LASTED:1/27/83
               * LAST EDIT 1/11/83
                                    ;
               *********************************
               *  TABLE OF VALUES FOR POSITIONING
               * HI NIBBLE = INCREMENT
               * LO NIBBLE = COUNTDOWN DELAY BEFORE LATCH.
               *********************************
               POSTBL
                                    ;
               * POSITIONS 16 TO 25-->
               *********************************
35C2: 50 40 30
35C5: 20 10 00
35C8: F0 E0 D0          DFB  $50,$40,$30,$20,$10,$00,$F0,$E0,$D0
                                    ;
               * POSITIONS 26 TO 35-->
               *********************************
35CB: C0 B0 A0
35CE: 90 71 61
35D1: 51 41 31
35D4: 21                DFB  $C0,$B0,$A0,$90,$71,$61,$51,$41,$31,$21
                                    ;
               * POSITIONS 36 TO 45--->
               *********************************
35D5: 11 01 F1
35D8: E1 D1 C1
35DB: B1 A1 91
35DE: 72                DFB  $11,$01,$F1,$E1,$D1,$C1,$B1,$A1,$91,$72
                                    ;
               * POSITIONS 46 TO 55--->
               *********************************
35DF: 62 52 42
35E2: 32 22 12
35E5: 02 F2 E2
35E8: D2                DFB  $62,$52,$42,$32,$22,$12,$02,$F2,$E2,$D2
                                    ;
               * POSITIONS 56 TO 65--->
               *********************************
35E9: C2 B2 A2
35EC: 92 73 63
35EF: 53 43 33
35F2: 23                DFB  $C2,$B2,$A2,$92,$73,$63,$53,$43,$33,$23
                                    ;
               * POSITIONS 66 TO 75-->
               *********************************
35F3: 13 03 F3
35F6: E3 D3 C3
35F9: B3 A3 93
35FC: 74                DFB  $13,$03,$F3,$E3,$D3,$C3,$B3,$A3,$93,$74
                                    ;
               * POSITIONS 76 TO 85-->
               *********************************
35FD: 64 54 44
3600: 34 24 14
3603: 04 F4 E4
3606: D4                DFB  $64,$54,$44,$34,$24,$14,$04,$F4,$E4,$D4
                                    ;
               * POSITIONS 86 TO 95-->
               *********************************
3607: C4 B4 A4
360A: 94 75 65
```

```
360A: 94 75 65
360D: 55 45 35
3610: 25                DFB  $C4,$B4,$A4,$94,$75,$65,$55,$45,$35,$25
                             ;
                   * POSITIONS 96 TO 105-->
                   ********************************
3611: 15 05 F5
3614: E5 D5 C5
3617: B5 A5 95
361A: 76                DFB  $15,$05,$F5,$E5,$D5,$C5,$B5,$A5,$95,$76
                             ;
                   * POSITIONS 106 TO 115-->
                   ********************************
361B: 66 56 46
361E: 36 26 16
3621: 06 F6 E6
3624: D6                DFB  $66,$56,$46,$36,$26,$16,$06,$F6,$E6,$D6
                             ;
                   * POSITIONS 116 TO 125-->
                   ********************************
3625: C6 B6 A6
3628: 96 77 67
362B: 57 47 37
362E: 27                DFB  $C6,$B6,$A6,$96,$77,$67,$57,$47,$37,$27
                             ;
                   * POSITIONS 126 TO 135-->
                   ********************************
362F: 17 07 F7
3632: E7 D7 C7
3635: B7 A7 97
3638: 78                DFB  $17,$07,$F7,$E7,$D7,$C7,$B7,$A7,$97,$78
                             ;
                   * POSITIONS 136 TO 145-->
                   ********************************
3639: 68 58 48
363C: 38 28 18
363F: 08 F8 E8
3642: D8                DFB  $68,$58,$48,$38,$28,$18,$08,$F8,$E8,$D8
                             ;
                             ;
                   ********************************
                   * DATA PTR OFFSETS FOR IMAGES  *
                   *   CROSSING BAND BOUNDARIES   *
                   ********************************
                   TOPOFF
3643: 00 01 02
3646: 03 04 05
3649: 06 07 08          DFB  0,1,2,3,4,5,6,7,8
364C: 09 0A 0B
364F: 0C 0D 0E
3652: 0F                DFB  9,10,11,12,13,14,15
                   BOTOFF
3653: 12 11 10
3656: 0F 0E 0D          DFB  18,17,16,15,14,13
3659: 0C 0B 0A
365C: 09 08 07
365F: 06                DFB  12,11,10,9,8,7,6
3660: 05 04 03          DFB  5,4,3
                             ;
                   ********************************
                   * TABLE OF INDEXES TO POSTBL   *
                   * FOR ACTUAL POS VALUES FOR    *
                   * CHERRIES. (POS 17-145).      *
                   ********************************
                   CHRPOS
3663: 00 08 10
3666: 18 20 28
```

```
3666: 18 20 28
3669: 30 38      >82          DFB  0,8,16,24,32,40,48,56
366B: 40 48 50
366E: 58 60 68
3671: 70 78      >83          DFB  64,72,80,88,96,104,112,120
                 >84                     ;
```

```
                    ******************************
                    * SOUND & MUSIC TABLES       *
                    ******************************
                            PUT  MR.DO.SND  TABLES
                    */MR.DO.SOUND TBLS LASTED 7/08/83.
                                                ;
                    ******************************
                    * MUSIC TABLES FOR CH. A->   *
                    ******************************
                                                ;FREQ/WAVE TABLE->
                                                ;B0-B4=FREQ.
                                                ;B7=WAVE
                                                ;   1=$0C
                                                ;   0=$04
                    ******************************
                    * CH. A FREQ/WAVE TBL-->     *
                    ******************************
                    AMUSFW
                    * SONG 1 = ORCHARD SONG-->
                    AS1FW
3673: 13 00 0E
3676: 00 0F 00
3679: 11 00 13
367C: 00 13                 DFB  $13,$00,$0E,$00,$0F,$00,$11,$00,$13,$00,$13
367E: 00 13 00
3681: 13 00 16
3684: 00 11 00
3687: 13 00                 DFB  $00,$13,$00,$13,$00,$16,$00,$11,$00,$13,$00
3689: 16 00 17
368C: 00 1A 00
368F: 17 00 16
3692: 00                    DFB  $16,$00,$17,$00,$1A,0,$17,0,$16,$00
3693: 13 00 11
3696: 00 0E                 DFB  $13,$00,$11,$00,$0E
3698: 00 0F 00
369B: 0F 00 11
369E: 00 0F 00
36A1: 13 00                 DFB  $00,$0F,$00,$0F,$00,$11,$00,$0F,$00,$13,$00
36A3: FF                    DFB  $FF            ;END OF SONG.
                    *  SONG 2 = END SONG-->
                    ******************************
                    AS2FW
36A4: 1A 00 11
36A7: 00 11                 DFB  $1A,$0,$11,$0,$11
36A9: 00 14 00
36AC: 1A 00                 DFB  $0,$14,$0,$1A,$0
36AE: 1A 00 11
36B1: 00 11                 DFB  $1A,$0,$11,$0,$11
36B3: 00 14 00
36B6: 1A 00                 DFB  $0,$14,$0,$1A,$0
36B8: 17 00 11
36BB: 00 11                 DFB  $17,$0,$11,0,$11
36BD: 00 11                 DFB  $00,$11
36BF: 00 1B 00
36C2: 1A                    DFB  $0,$1B,$0,$1A
36C3: FF                    DFB  $FF            ;END OF SONG.
                    * MR DO DEAD SONG-->
                    ******************************
                    AS3FW
36C4: 0F 11 13
36C7: 16 17                 DFB  $0F,$11,$13,$16,$17
36C9: 1A 1D 00
36CC: 13 00                 DFB  $1A,$1D,$00,$13,$00
36CE: 0E                    DFB  $0E
36CF: FF                    DFB  $FF            ;END OF SONG.
                    ******************************
```

```
                    ********************************
                    * CH A VOLUME/TIME TABLE->     *
                    ********************************
                    AMUSVT
                                            ;B0-B5=TIME.
                                            ;B6-B7=IDX TO VOLTBL.
                    AS1VT
36D0: C7 03 C7
36D3: 03 C7 03
36D6: C7 03 C7
36D9: 03 C7 03                DFB   $C7,$03,$C7,$03,$C7,$03,$C7,$03,$C7,$03,$C7,$
03
36DC: C7 03 C7
36DF: 03 C7 03
36E2: C7 03 C7
36E5: 03 C7 03                DFB   $C7,$03,$C7,$03,$C7,$03,$C7,$03,$C7,$03,$C7,$
03
36E8: D4 14 C7
36EB: 03 C7 03
36EE: C7 03 C7
36F1: 03 CA 0A                DFB   $D4,$14,$C7,$03,$C7,$03,$C7,$03,$C7,$03,$CA,$
0A
36F4: CA 0A C7
36F7: 03 C7 03
36FA: C7 03 C7
36FD: 03 D4 14                DFB   $CA,$0A,$C7,$03,$C7,$03,$C7,$03,$C7,$03,$D4,$
14
3700: FF                      DFB   $FF          ;END OF SONG.
                                                 ;
                    *  SONG2 = END SONG-->
                    AS2VT
3701: CC 0C C9
3704: 03 C9                   DFB   $CC,$0C,$C9,$03,$C9
3706: 03 CC 0C
3709: CC 0C                   DFB   $03,$CC,$0C,$CC,$0C
370B: CC 0C C9
370E: 03 C9                   DFB   $CC,$0C,$C9,$03,$C9
3710: 03 CC 0C
3713: CC 0C                   DFB   $03,$CC,$0C,$CC,$0C
3715: CC 0C C9
3718: 03 C9                   DFB   $CC,$0C,$C9,$03,$C9
371A: 03 D8 30
371D: CC 0C                   DFB   $03,$D8,$30,$CC,$0C
371F: CC                      DFB   $CC
3720: FF                      DFB   $FF          ;END OF SONG.
                    *  MR DO DEAD SONG-->
                    AS3VT
3721: C6 C6 C6
3724: C6 C6                   DFB   $C6,$C6,$C6,$C6,$C6
3726: C6 C6 06
3729: C6 06                   DFB   $C6,$C6,$06,$C6,$06
372B: C6                      DFB   $C6
372C: FF                      DFB   $FF          ;END OF SONG.
                    ********************************
                    * MUSIC TABLES FOR CH B->      *
                    ********************************
                                            ;CH B FREQ/WAVE TBL->
                    ********************************
                    * CH.B  FREQ/WAVE TABLE-->     *
                    ********************************
                    BMUSFW
                    BS1FW
372D: 93 80 8F
3730: 80 9A 80
3733: 93 80 8F
3736: 80 91                   DFB   $93,$80,$8F,$80,$9A,$80,$93,$80,$8F,$80,$91
3738: 80 8F 80
```

```
3738: 80 8E 80
373B: 9A 80 93
373E: 80 8F 80
3741: 94 80                   DFB  $80,$8E,$80,$9A,$80,$93,$80,$8F,$80,$94,$80
3743: 91 80 8E
3746: 80 8B 80
3749: 8C 80 8E
374C: 80 8F                   DFB  $91,$80,$8E,$80,$8B,$80,$8C,$80,$8E,$80,$8F
374E: 80 91 80
3751: 94 80 91
3754: 80 8C 80
3757: 8E 80                   DFB  $80,$91,$80,$94,$80,$91,$80,$8C,$80,$8E,$80
3759: 8F 80 91
375C: 80                      DFB  $8F,$80,$91,$80
375D: FF                      DFB  $FF            ;END OF SONG1.
                     BS2FW
375E: 8D 80 8B
3761: 80 8D                   DFB  $8D,$80,$8B,$80,$8D
3763: 80 8B 80
3766: 8D 80                   DFB  $80,$8B,$80,$8D,$80
3768: 8B 80 8D
376B: 80 8B                   DFB  $8B,$80,$8D,$80,$8B
376D: 80 8F 80
3770: 8B 80                   DFB  $80,$8F,$80,$8B,$80
3772: 8B 80 97
3775: 80 97                   DFB  $8B,$80,$97,$80,$97
3777: 80 97 80
377A: 97 80                   DFB  $80,$97,$80,$97,$80
377C: 91                      DFB  $91
377D: FF                      DFB  $FF            ;END OF SONG.
                     * MR DO DEAD SONG-->
                     BS3FW
377E: 0F 11 13
3781: 16 17                   DFB  $0F,$11,$13,$16,$17
3783: 1A 1D 00
3786: 13 00                   DFB  $1A,$1D,$00,$13,$00
3788: 0E                      DFB  $0E
3789: FF                      DFB  $FF            ;END OF SONG.
                     *******************************
                     * CH. B MUSIC VOL/TIME TBL    *
                     *******************************
                     BMUSVT
                     BS1VT
378A: 07 03 0A
378D: 0A 07 03
3790: 0A 0A 0A
3793: 0A 07 03                DFB  $07,$03,$0A,$0A,$07,$03,$0A,$0A,$0A,$0A,$07,$
03
3796: 0A 0A 07
3799: 03 0A 0A
379C: 0A 0A 07
379F: 03 0A 0A                DFB  $0A,$0A,$07,$03,$0A,$0A,$0A,$0A,$07,$03,$0A,$
0A
37A2: 07 03 07
37A5: 03 07 03
37A8: 07 03 07
37AB: 03 07 03                DFB  $07,$03,$07,$03,$07,$03,$07,$03,$07,$03,$07,$
03
37AE: 0A 0A 07
37B1: 03 07 03
37B4: 07 03 07
37B7: 03                      DFB  $0A,$0A,$07,$03,$07,$03,$07,$03,$07,$03
37B8: 07 03                   DFB  $07,$03
37BA: FF                      DFB  $FF            ;END OF SONG1.
                     BS2VT
37BB: 8C 0C 8C
37BE: 0C 8C                   DFB  $8C,$0C,$8C,$0C,$8C
```

```
37BE: 0C 8C                 DFB  $8C,$0C,$8C,$0C,$8C
37C0: 0C 8C 0C
37C3: 8C 0C                 DFB  $0C,$8C,$0C,$8C,$0C
37C5: 8C 0C 8C
37C8: 0C 8C                 DFB  $8C,$0C,$8C,$0C,$8C
37CA: 0C 8C 0C
37CD: 8C 0C                 DFB  $0C,$8C,$0C,$8C,$0C
37CF: 8C 0C 89
37D2: 03 89                 DFB  $8C,$0C,$89,$03,$89
37D4: 03 8C 0C
37D7: 8C 0C                 DFB  $03,$8C,$0C,$8C,$0C
37D9: 8C                    DFB  $8C
37DA: FF                    DFB  $FF           ;END OF SONG.
                   * MR DO DEAD SONG->
                   BS3VT
37DB: 06 06 06
37DE: 06 06                 DFB  $06,$06,$06,$06,$06
37E0: 06 06 06
37E3: 06 06                 DFB  $06,$06,$06,$06,$06
37E5: 06                    DFB  $06
37E6: FF                    DFB  $FF           ;END OF SONG.
                   VOLTBL
37E7: 00 0A 0B
37EA: 0C                    DFB  0,10,11,12
                                                ;
                   ********************************
                   * DATA STRUCTURE FOR SOUNDS--> *
                   * BYTE 1: B0-B3= VOLUME        *
                   *         B4-B7= WAVEFORM      *
                   * BYTE 2: B0-B4= FREQ DIVISOR  *
                   *         B5-B7= 3 BIT DURATION*
                   *   WHEN VOLUME=0,SOUND DONE   *
                   ********************************
                   SNDTBL
                   DEADSND
37EB: 88 F5 87
37EE: FA                    DFB  $88,$F5,$87,$FA
37EF: 88 F1 00
37F2: 00                    DFB  $88,$F1,0,0
                   BEEP
37F3: 48 7B                 DFB  $48,$7B
37F5: 44 7B                 DFB  $44,$7B
37F7: 00 00                 DFB  0,0
                   BOOP
37F9: 48 73                 DFB  $48,$73
37FB: 44 73                 DFB  $44,$73
37FD: 00 00                 DFB  0,0
                   BELLS
37FF: 49 63                 DFB  $49,$63
3801: 49 EA                 DFB  $49,$EA
3803: 49 E7                 DFB  $49,$E7
3805: 00 00                 DFB  0,0
                   CHER1
3807: 4B 7D                 DFB  $4B,$7D
3809: 4B 6E                 DFB  $4B,$6E
380B: 4B 7D                 DFB  $4B,$7D
380D: 4B 6E                 DFB  $4B,$6E
380F: 4B 7D                 DFB  $4B,$7D
3811: 4B 7D                 DFB  $4B,$7D
3813: 00                    DFB  0
                   CHER2
3814: 4B 7A                 DFB  $4B,$7A
3816: 4B 6C                 DFB  $4B,$6C
3818: 4B 7A                 DFB  $4B,$7A
381A: 4B 6C                 DFB  $4B,$6C
381C: 4B 7A                 DFB  $4B,$7A
381E: 4B 6C                 DFB  $4B,$6C
```

```
381E: 4B 8C          DFB  $4B,$8C
3820: 00             DFB  0
               CHER3
3821: 4B 77          DFB  $4B,$77
3823: 4B 6B          DFB  $4B,$6B
3825: 4B 77          DFB  $4B,$77
3827: 4B 6B          DFB  $4B,$6B
3829: 4B 77          DFB  $4B,$77
382B: 4B 6B          DFB  $4B,$6B
382D: 00             DFB  0
               CHER4
382E: 4B 75          DFB  $4B,$75
3830: 4B 6A          DFB  $4B,$6A
3832: 4B 75          DFB  $4B,$75
3834: 4B 6A          DFB  $4B,$6A
3836: 4B 75          DFB  $4B,$75
3838: 4B 6A          DFB  $4B,$6A
383A: 00             DFB  0
               CHER5
383B: 4B 73          DFB  $4B,$73
383D: 4B 69          DFB  $4B,$69
383F: 4B 73          DFB  $4B,$73
3841: 4B 69          DFB  $4B,$69
3843: 4B 73          DFB  $4B,$73
3845: 4B 69          DFB  $4B,$69
3847: 00             DFB  0
               CHER6
3848: 4B 71          DFB  $4B,$71
384A: 4B 68          DFB  $4B,$68
384C: 4B 71          DFB  $4B,$71
384E: 4B 68          DFB  $4B,$68
3850: 4B 71          DFB  $4B,$71
3852: 4B 68          DFB  $4B,$68
3854: 00             DFB  0
```

```
                         OBJ   $8894
                         ORG   $3890
             ********************************
             * DIGIT DATA FILE              *
             ********************************
                         PUT   MR.DO.DIGITS
             */MR.DO.DATA LASTED 5/15/83
             *.....DIGITS.....
             DATA1
             DIGITS
             *
             ZERO
3890: 00 1C 22
3893: 63 63 63
3896: 22 1C              DFB   $00,$1C,$22,$63,$63,$63,$22,$1C
             ONE
3898: 00 7F 0C
389B: 0C 0C 1C
389E: 0C 04              DFB   $00,$7F,$0C,$0C,$0C,$1C,$0C,$04
             TWO
38A0: 00 7F 60
38A3: 60 3E 03
38A6: 03 3E              DFB   $00,$7F,$60,$60,$3E,$03,$03,$3E
             THREE
38A8: 00 7E 03
38AB: 03 3E 03
38AE: 03 7E              DFB   $00,$7E,$03,$03,$3E,$03,$03,$7E
             FOUR
38B0: 00 06 7F
38B3: 26 16 0E
38B6: 06 02              DFB   $00,$06,$7F,$26,$16,$0E,$06,$02
             FIVE
38B8: 00 7E 03
38BB: 03 3E 60
38BE: 60 7E              DFB   $00,$7E,$03,$03,$3E,$60,$60,$7E
             SIX
38C0: 00 3E 63
38C3: 63 7E 60
38C6: 60 3E              DFB   $00,$3E,$63,$63,$7E,$60,$60,$3E
             SEVEN
38C8: 00 30 18
38CB: 0C 06 03
38CE: 61 7F              DFB   $00,$30,$18,$0C,$06,$03,$61,$7F
             EIGHT
38D0: 00 3E 63
38D3: 63 3E 63
38D6: 63 3E              DFB   $00,$3E,$63,$63,$3E,$63,$63,$3E
             NINE
38D8: 00 3E 03
38DB: 03 3F 63
38DE: 63 3E              DFB   $00,$3E,$03,$03,$3F,$63,$63,$3E
38E0: 00 00 00
38E3: 00 00 00
38E6: 00 00  BLANK       DFB   0,0,0,0,0,0,0,0
             *
             SCORTB
38E8: 90 98 A0
38EB: A8 B0              DFB   <ZERO,<ONE,<TWO,<THREE,<FOUR
38ED: B8 C0 C8
38F0: D0 D8              DFB   <FIVE,<SIX,<SEVEN,<EIGHT,<NINE
```

```
                          OBJ  $8904
                          ORG  $3900
                 ********************************
                 * SPRITE B IMAGE DATA FILE     *
                 ********************************
                          PUT  MR.DO.SPRITEB IMAGES
                 */MR.DO.SB IMAGES LASTED 7/06/83.
                                         ;
                                         ;
                 * SPRITE B IMAGES-->
                 ********************************
                 SBIMG
                 CHERRY
3900: 00                  DFB  0
3901: 00                  DFB  0
3902: 00                  DFB  0
3903: 00                  DFB  0
3904: 42                  DFB  $42
3905: E7                  DFB  $E7
3906: EF                  DFB  $EF
3907: E7                  DFB  $E7
3908: 42                  DFB  $42
3909: 24                  DFB  $24
390A: 14                  DFB  $14
390B: 0C                  DFB  $0C
390C: 04                  DFB  $04
390D: 00                  DFB  0
390E: 00                  DFB  0
390F: 00                  DFB  0
3910: 00                  DFB  0
3911: 00                  DFB  0
                                         ;
                 * MR DO, LEFT FOOT DOWN, FACING LEFT, EYES OPEN.
3912: 00 00 00
3915: 00 00 00
3918: 00 00               DFB  0,0,0,0,0,0,0,0
391A: 00 00 00
391D: 00 00 00
3920: 00 00               DFB  0,0,0,0,0,0,0,0
                 MRDOLL
3922: 00                  DFB  0
3923: C0 44 4C
3926: 30 38               DFB  $C0,$44,$4C,$30,$38
3928: 78 F8 F8
392B: 30 70               DFB  $78,$F8,$F8,$30,$70
392D: 58 5D 7E
3930: 38 10               DFB  $58,$5D,$7E,$38,$10
3932: 00                  DFB  0
3933: 00                  DFB  0
                                         ;
                 NULLB
3934: 00 00 00
3937: 00 00 00
393A: 00 00               DFB  0,0,0,0,0,0,0,0
393C: 00 00 00
393F: 00 00 00
3942: 00 00               DFB  0,0,0,0,0,0,0,0
                 * MR DO RIGHT FOOT DOWN, FACING LEFT, EYES CLOSED.
                 MRDORL
3944: 00                  DFB  0
3945: 68 38 30
3948: 30 38               DFB  $68,$38,$30,$30,$38
394A: 78 F8 F8
394D: 30 70               DFB  $78,$F8,$F8,$30,$70
394F: 58 5C 7E
3952: 39 10               DFB  $58,$5C,$7E,$39,$10
```

```
3954: 00              DFB  0
3955: 00              DFB  0
                                       ;
3956: 00 00 00
3959: 00 00 00
395C: 00 00           DFB  0,0,0,0,0,0,0,0
395E: 00 00 00
3961: 00 00 00
3964: 00 00           DFB  0,0,0,0,0,0,0,0
             * MR DO RIGHT FOOT DOWN, FACING RIGHT, EYES CLOSED.
             ********************************
             MRDORR
3966: 00              DFB  0
3967: 03 22 32
396A: 0C 1C           DFB  $03,$22,$32,$0C,$1C
396C: 1E 1F 1F
396F: 0C 0E           DFB  $1E,$1F,$1F,$0C,$0E
3971: 1A BA 7E
3974: 1C 08           DFB  $1A,$BA,$7E,$1C,$08
3976: 00              DFB  0
3977: 00              DFB  0
                                       ;
3978: 00 00 00
397B: 00 00 00
397E: 00 00           DFB  0,0,0,0,0,0,0,0
3980: 00 00 00
3983: 00 00 00
3986: 00 00           DFB  0,0,0,0,0,0,0,0
             * MR DO LEFT FOOT DOWN,FACING RIGHT,EYES OPEN.
             MRDOLR
3988: 00              DFB  0
3989: 16 1C 0C
398C: 0C 1C           DFB  $16,$1C,$0C,$0C,$1C
398E: 1E 1F 1F
3991: 0C 0E           DFB  $1E,$1F,$1F,$0C,$0E
3993: 1A 3A 7E
3996: 9C 08           DFB  $1A,$3A,$7E,$9C,$08
3998: 00              DFB  0
3999: 00              DFB  0
                                       ;
399A: 00 00 00
399D: 00 00 00
39A0: 00 00           DFB  0,0,0,0,0,0,0,0
39A2: 00 00 00
39A5: 00 00 00
39A8: 00 00           DFB  0,0,0,0,0,0,0,0
```

```
                  **********************************
                  * ADDRESS PTRS FOR WORDS         *
                  **********************************
                          PUT  MR.DO.ADDRESS PTRS
                  */ MR.DO ADDR PTRS LASTED 7/28/83.
                  *
                  * LOW BYTE ADDRESSES FOR WORDS-->
                  **********************************
                  * WORD "COLECO"
                  **********************************
                  WORDS
39AA: 70 80 78
39AD: 30 70 80    COLECO  DFB  <LC,<LO,<LL,<LE,<LC,<LO
                  * WORD "PRESENTS"
                  **********************************
39B0: 88 90 98
39B3: A0 A8 B0    PRESNT  DFB  <LPR,<LE2,<LSE,<LN,<LTS,<LS
                                ;
                  * WORD "MR DO!"
                  **********************************
                  MRDOT1
39B6: B8                  DFB  <NULL
39B7: 00 18 20
39BA: 28 B8 B8    MRDOTB  DFB  <LM,<SMLR,<LD,<LOH,<NULL,<NULL
                  * NULL WORD-->
                  **********************************
                  NULLTB
39BD: B8 B8 B8
39C0: B8 B8 B8            DFB  <NULL,<NULL,<NULL,<NULL,<NULL,<NULL
                  * WORD "GAME"-->
                  **********************************
                  GAMETB
39C3: B8 C2 60
39C6: 00 30 B8            DFB  <NULL,<LG,<LA,<LM,<LE,<NULL
                  * WORD "OVER"-->
                  **********************************
                  OVERTB
39C9: B8 80 CB
39CC: 30 08 B8            DFB  <NULL,<LO,<LV,<LE,<LR,<NULL
                  * WORD "EXTRA"
                  **********************************
39CF: B8 30 40
39D2: 50 08 60    LETTBL  DFB  <NULL,<LE,<LX,<LT,<LR,<LA
                  * WORD EXTRA IN REVERSE VIDEO
                  **********************************
                  REVTBL
39D5: B8 38 48            DFB  <NULL,<REVE,<REVX
39D8: 58 10 68            DFB  <REVT,<REVR,<REVA
                                ;
                                ;
                  **********************************
                  * LOAD PTRS FOR 6 SPRITES-->     *
                  * X = HI PTR FOR WHERE DATA IS   *
                  * A = LO ADDR OF TBL WHERE LO    *
                  *     BYTE PTRS ARE              *
                  **********************************
                  SPRIT6
39DB: 85 EF               STA  TEMP1
39DD: A9 39               LDA  #>WORDS
39DF: 85 F0               STA  TEMP2
39E1: 86 F1               STX  TEMP3
39E3: A0 05               LDY  #5
39E5: A2 0B               LDX  #11
                  SPR6
39E7: A5 F1               LDA  TEMP3
39E9: 95 F2               STA  RD1OOK,X
```

```
39E9: 95 F2          STA  PD100K,X
39EB: CA             DEX
39EC: B1 EF          LDA  (TEMP1),Y
39EE: 95 F2          STA  PD100K,X
39F0: CA             DEX
39F1: 88             DEY
39F2: 10 F3          BPL  SPR6
39F4: 60             RTS
                                   ;
                                   ;
```

```
                 OBJ  $8A04
                 ORG  $3A00
       *********************************
       * SPRITE A IMAGES (PAGE 1)      *
       *********************************
                 PUT  MR.DO.SA   IMG1
       */MR.DO.SA IMG1 LASTED 8/3/83.
                                 ;
       *-------------------------------
                                 ;
       * SPRITE A IMAGE DATA-->
       *********************************
       * SA IMAGES ARE ON 2 PAGES,     *
       * IMG1 & IMG2. DURING ORCHARD   *
       * PAINTING, EACH BANDS HI DATA  *
       * PTR (PAGE) IS GOVERENED BY    *
       * ITS RESPECTIVE BIT IN PTR.    *
       * IF BIT = 1 THEN IMG IS ON     *
       * IMG2 PAGE, ELSE ITS ON IMG1   *
       * PAGE.                         *
       *********************************
       IMG1
       * APPLE SITTING STEADY-->
       *********************************
       APPLE0
       APPLE1
3A00: 00                 DFB  0
3A01: 00                 DFB  0
3A02: 24                 DFB  %00100100
3A03: 7E                 DFB  %01111110
3A04: 7E                 DFB  %01111110
3A05: FF                 DFB  %11111111
3A06: FF                 DFB  %11111111
3A07: FF                 DFB  %11111111
3A08: 67                 DFB  %01100111
3A09: 2A                 DFB  %00101010
3A0A: 08                 DFB  %00001000
3A0B: 04                 DFB  %00000100
3A0C: 00                 DFB  0
3A0D: 00                 DFB  0
                                 ;
       * APPLE ROCKING LEFT-->
       *********************************
       APPLE2
3A0E: 00 00              DFB  0,0
3A10: 10 36 7F
3A13: FF FF              DFB  $10,$36,$7F,$FF,$FF
3A15: FF 67 2A
3A18: 08 10              DFB  $FF,$67,$2A,$08,$10
3A1A: 00 00              DFB  0,0
       * APPLE ROCKING RIGHT-->
       *********************************
       APPLE3
3A1C: 00 00              DFB  0,0
3A1E: 08 6C FE
3A21: FF FF              DFB  $08,$6C,$FE,$FF,$FF
3A23: FF E6 54
3A26: 10 08              DFB  $FF,$E6,$54,$10,$08
3A28: 00 00              DFB  0,0
       * APPLE BREAKING STAGE 1->>
       *********************************
       APPLE4
3A2A: 00 00              DFB  0,0
3A2C: 18 3C E7
3A2F: C3 C3              DFB  $18,$3C,$E7,$C3,$C3
3A31: 81 81 00
```

```
3A34: 00 00              DFB  $81,$81,$00,$00,$00
3A36: 00 00              DFB  0,0
                                        ;
                  * APPLE BREAKING STAGE 2->>
                  ********************************
                  APPLE5
3A38: 00 00              DFB  0,0
                  APEND
3A3A: 3C E7 C3
3A3D: 81 00              DFB  $3C,$E7,$C3,$81,$00
                                        ;
3A3F: 00 00 00
3A42: 00 00 00
3A45: 00 00              DFB  0,0,0,0,0,0,0,0
3A47: 00 00 00
3A4A: 00 00 00
3A4D: 00 00              DFB  0,0,0,0,0,0,0,0
                                        ;
                  * DIG FACING LEFT,RIGHT FOOT DOWN-->
                  ********************************
                  DIGLR
3A4F: 00                 DFB  0
3A50: 0C 08 38
3A53: 28 7E              DFB  $0C,$08,$38,$28,$7E
3A55: C2 47 28
3A58: 28 C8              DFB  $C2,$47,$28,$28,$C8
3A5A: 86 92 92
3A5D: 84 78              DFB  $86,$92,$92,$84,$78
3A5F: 00                 DFB  0
3A60: 00 00 00
3A63: 00 00 00
3A66: 00 00              DFB  0,0,0,0,0,0,0,0
3A68: 00 00 00
3A6B: 00 00 00
3A6E: 00 00              DFB  0,0,0,0,0,0,0,0

                  * DIGGER FACING LEFT LEFT FOOT DOWN-->
                  ********************************
                  DIGLL
3A70: 00                 DFB  0
3A71: 30 20 2C
3A74: 28 7C              DFB  $30,$20,$2C,$28,$7C
3A76: C4 44 22
3A79: 2F C8              DFB  $C4,$44,$22,$2F,$C8
3A7B: 86 82 92
3A7E: 84 78              DFB  $86,$82,$92,$84,$78
3A80: 00                 DFB  0
3A81: 00 00 00
3A84: 00 00 00
3A87: 00 00              DFB  0,0,0,0,0,0,0,0
3A89: 00 00 00
3A8C: 00 00 00
3A8F: 00 00              DFB  0,0,0,0,0,0,0,0
3A91: 00                 DFB  0
                                        ;
                  * DIGGING FACING RIGHT-->
                  DUGLL
3A92: 00                 DFB  0
3A93: 2A 3E 7F
3A96: EA CA              DFB  $2A,$3E,$7F,$EA,$CA
3A98: 80 80 CA
3A9B: EB FF              DFB  $80,$80,$CA,$EB,$FF
3A9D: 7E 66 55
3AA0: 55 77              DFB  $7E,$66,$55,$55,$77
3AA2: 00                 DFB  0
3AA3: 00 00 00
```

```
3AA6: 00 00     >98          DFB  0,0,0,0,0
3AA8: 00 00 00
3AAB: 00 00     >99          DFB  0,0,0,0,0
3AAD: 00 00 00
3AB0: 00 00     >100         DFB  0,0,0,0,0
3AB2: 00 00     >101         DFB  0,0
                >102                          ;TEMP DIGGING IMG->
                >103  DUGLR
3AB4: 00        >104         DFB  0
3AB5: 54 54 3E
3AB8: 7F CA     >105         DFB  $54,$54,$3E,$7F,$CA
3ABA: 80 CA EB
3ABD: FF 7E     >106         DFB  $80,$CA,$EB,$FF,$7E
3ABF: 4C 55 55
3AC2: 55 77     >107         DFB  $4C,$55,$55,$55,$77
3AC4: 00        >108         DFB  0
3AC5: 00 00 00
3AC8: 00 00 00
3ACB: 00 00     >109         DFB  0,0,0,0,0,0,0,0
3ACD: 00 00 00
3AD0: 00 00 00
3AD3: 00 00     >110         DFB  0,0,0,0,0,0,0,0
3AD5: 00 00 00
3AD8: 00 00     >111         DFB  0,0,0,0,0
3ADA: 00 00 00
3ADD: 00 00     >112         DFB  0,0,0,0,0
3ADF: 00 00 00
3AE2: 00 00     >113         DFB  0,0,0,0,0
                >114  NULL1
3AE4: 00 00 00
3AE7: 00 00     >115         DFB  0,0,0,0,0
3AE9: 00 00 00
3AEC: 00 00     >116         DFB  0,0,0,0,0
3AEE: 00 00 00
3AF1: 00 00     >117         DFB  0,0,0,0,0
3AF3: 00 00 00 >118          DFB  0,0,0
                >119                          ;
```

```
                       OBJ  $8B04
                       ORG  $3B00
            *******************************
            * SPRITE A IMAGES (PAGE 2)    *
            *******************************
                       PUT  MR.DO.SA   IMG2
            */MR.DO.SA IMG2 LASTED 8/3/83.
                                        ;
            *-----------------------------
            *  ALPHA MONSTER IMAGES--->
            *******************************
            IMG2
                                        ;ORG $3B40->
            * DIGGING FACING LEFT-->
            DUGRR
3B00: 00 00            DFB  0,0
3B02: C2 66 FC
3B05: F8 AC            DFB  $C2,$66,$FC,$F8,$AC
3B07: A6 02 0A
3B0A: 0E AC            DFB  $A6,$02,$0A,$0E,$AC
3B0C: AC F8 78
3B0F: 30 00            DFB  $AC,$F8,$78,$30,$00
3B11: 00 00 00
3B14: 00 00            DFB  0,0,0,0,0
3B16: 00 00 00
3B19: 00 00            DFB  0,0,0,0,0
3B1B: 00 00 00
3B1E: 00 00            DFB  0,0,0,0,0
            DUGRL
3B20: 00 00 00
3B23: 00               DFB  0,0,0,0
3B24: 38 18 18
3B27: 38 7C            DFB  $38,$18,$18,$38,$7C
3B29: E6 A6 06
3B2C: A6 FC            DFB  $E6,$A6,$06,$A6,$FC
3B2E: 7C 38            DFB  $7C,$38
3B30: 00 00 00
3B33: 00 00            DFB  0,0,0,0,0
3B35: 00 00 00
3B38: 00 00            DFB  0,0,0,0,0
3B3A: 00 00 00
3B3D: 00 00            DFB  0,0,0,0,0
3B3F: 00 00            DFB  0,0
3B41: 00 00 00
3B44: 00               DFB  0,0,0,0
3B45: 00 00 00
3B48: 00               DFB  0,0,0,0
            LETRE
3B49: 00               DFB  0           ;LETTER E
3B4A: C3 66 7E
3B4D: 42 81            DFB  $C3,$66,$7E,$42,$81
3B4F: BD B1 B1
3B52: BD B1            DFB  $BD,$B1,$B1,$BD,$B1
3B54: B1 BD 81
3B57: 42 3C            DFB  $B1,$BD,$81,$42,$3C
3B59: 00 00 00
3B5C: 00 00            DFB  0,0,0,0,0
3B5E: 00 00 00
3B61: 00 00            DFB  0,0,0,0,0
3B63: 00 00 00
3B66: 00 00            DFB  0,0,0,0,0
3B68: 00 00            DFB  0,0
            LETRX
3B6A: 00               DFB  0           ;LETTER X
3B6B: C3 66 7E
3B6E: 42 81            DFB  $C3,$66,$7E,$42,$81
```

```
3B6E: 42 81     >39           DFB  $C3,$66,$7E,$42,$81
3B70: A5 A5 A5
3B73: 99 99     >40           DFB  $A5,$A5,$A5,$99,$99
3B75: A5 A5 81
3B78: 42 3C     >41           DFB  $A5,$A5,$81,$42,$3C
3B7A: 00 00 00
3B7D: 00 00     >42           DFB  0,0,0,0,0
3B7F: 00 00 00
3B82: 00 00     >43           DFB  0,0,0,0,0
3B84: 00 00 00
3B87: 00 00     >44           DFB  0,0,0,0,0
3B89: 00 00     >45           DFB  0,0
                >46   LETRT
3B8B: 00        >47           DFB  0              ;LETTER T
3B8C: C3 66 7E
3B8F: 42 81     >48           DFB  $C3,$66,$7E,$42,$81
3B91: 99 99 99
3B94: 99 99     >49           DFB  $99,$99,$99,$99,$99
3B96: 99 BD 81
3B99: 42 3C     >50           DFB  $99,$BD,$81,$42,$3C
3B9B: 00 00 00
3B9E: 00 00     >51           DFB  0,0,0,0,0
3BA0: 00 00 00
3BA3: 00 00     >52           DFB  0,0,0,0,0
3BA5: 00 00 00
3BA8: 00 00     >53           DFB  0,0,0,0,0
3BAA: 00 00     >54           DFB  0,0
                >55   LETRR
3BAC: 00        >56           DFB  0              ;LETTER R.
3BAD: C3 66 7E
3BB0: 42 81     >57           DFB  $C3,$66,$7E,$42,$81
3BB2: B5 B5 B9
3BB5: B5 B5     >58           DFB  $B5,$B5,$B9,$B5,$B5
3BB7: B5 B9 81
3BBA: 42 3C     >59           DFB  $B5,$B9,$81,$42,$3C
3BBC: 00 00 00
3BBF: 00 00     >60           DFB  0,0,0,0,0
3BC1: 00 00 00
3BC4: 00 00     >61           DFB  0,0,0,0,0
3BC6: 00 00 00
3BC9: 00 00     >62           DFB  0,0,0,0,0
3BCB: 00 00     >63           DFB  0,0
                >64   LETRA
3BCD: 00        >65           DFB  0              ;LETTER A
3BCE: C3 66 7E
3BD1: 42 81     >66           DFB  $C3,$66,$7E,$42,$81
3BD3: A5 A5 BD
3BD6: A5 A5     >67           DFB  $A5,$A5,$BD,$A5,$A5
3BD8: A5 99 81
3BDB: 42 3C     >68           DFB  $A5,$99,$81,$42,$3C
3BDD: 00 00 00
3BE0: 00 00     >69           DFB  0,0,0,0,0
3BE2: 00 00 00
3BE5: 00 00     >70           DFB  0,0,0,0,0
3BE7: 00 00 00
3BEA: 00 00     >71           DFB  0,0,0,0,0
                >72                               ;
3BEC: 00 00 00
3BEF: 00 00     >73           DFB  0,0,0,0,0
```

```
                         OBJ   $8C04
                         ORG   $3C00
               *******************************
               * LETTER IMAGE TABLES          *
               *******************************
                         PUT   MR.DO.LETTER TABLES
               */MR.DO.LETTER TBLS LASTED 7/29/83
                                          ;
               DATA2
               LETTRS
3C00: 00 41 41
3C03: 41 49 55
3C06: 63 41    LM        DFB  0,$41,$41,$41,$49,$55,$63,$41
               *  LETTER "R"
3C08: 00 43 46
3C0B: 4C 7E 41
3C0E: 41 7E    LR        DFB  0,$43,$46,$4C,$7E,$41,$41,$7E
               * REVERSE 'R'
               REVR
3C10: 00 BC B9           DFB  0,$FF-$43,$FF-$46
3C13: B3 81              DFB  $FF-$4C,$FF-$7E
3C15: BE BE              DFB  $FF-$41,$FF-$41
3C17: 81                 DFB  $FF-$7E
               *  SMALL "R"
               SMLR
3C18: 00 40 40
3C1B: 40 48 78
3C1E: 40 00              DFB  0,$40,$40,$40,$48,$78,$40,0
               *  LETTER "D"
3C20: 00 78 44
3C23: 44 44 44
3C26: 44 78    LD        DFB  0,$78,$44,$44,$44,$44,$44,$78
               * LETTERS "O!"
               LOH
3C28: 00 62 90
3C2B: 92 92 93
3C2E: 63 03              DFB  0,$62,$90,$92,$92,$93,$63,$03
               * LETTER "E"
3C30: 00 7E 40
3C33: 40 78 40
3C36: 40 7E    LE        DFB  0,$7E,$40,$40,$78,$40,$40,$7E
               * REVERSE 'E'
               REVE
3C38: 00 81 BF           DFB  0,$FF-$7E,$FF-$40
3C3B: BF 87              DFB  $FF-$40,$FF-$78
3C3D: BF BF              DFB  $FF-$40,$FF-$40
3C3F: 81                 DFB  $FF-$7E
               * LETTER "X"
3C40: 00 41 22
3C43: 14 08 14
3C46: 22 41    LX        DFB  0,$41,$22,$14,$08,$14,$22,$41
               * REVERSE 'X'
               REVX
3C48: 00 BE DD           DFB  0,$FF-$41,$FF-$22
3C4B: EB F7              DFB  $FF-$14,$FF-$08
3C4D: EB DD              DFB  $FF-$14,$FF-$22
3C4F: BE                 DFB  $FF-$41
               * LETTER "T"
3C50: 00 08 08
3C53: 08 08 08
3C56: 08 7F    LT        DFB  0,$08,$08,$08,$08,$08,$08,$7F
               * REVERSE 'T'
               REVT
3C58: 00 F7              DFB  0,$FF-$08
3C5A: F7 F7              DFB  $FF-$08,$FF-$08
3C5C: F7 F7              DFB  $FF-$08,$FF-$08
```

```
3C5E: 80 FF                 DFB  $FF-$7F,$FF
                    * LETTER "A"
3C60: 00 44 44
3C63: 44 7C 44
3C66: 28 10         LA      DFB  0,$44,$44,$44,$7C,$44,$28,$10
                    * REVERSE 'A'
                    REVA
3C68: 00 BB BB              DFB  0,$FF-$44,$FF-$44
3C6B: BB 83                 DFB  $FF-$44,$FF-$7C
3C6D: BB D7                 DFB  $FF-$44,$FF-$28
3C6F: EF                    DFB  $FF-$10
                                        ;
                    * LETTER "C"
3C70: 00 7F 40
3C73: 40 40 40
3C76: 40 7F         LC      DFB  0,$7F,$40,$40,$40,$40,$40,$7F
                    * LETTER "L"
3C78: 00 7F 40
3C7B: 40 40 40
3C7E: 40 40         LL      DFB  0,$7F,$40,$40,$40,$40,$40,$40
                    * LETTER "O"
3C80: 00 7F 41
3C83: 41 41 41
3C86: 41 7F         LO      DFB  0,$7F,$41,$41,$41,$41,$41,$7F
                    * LETTERS FOR THE WORD "PRESENTS"
                    ********************************
                    LPR
3C88: 00 84 85
3C8B: 86 F7 94
3C8E: 94 F7                 DFB  0,$84,$85,$86,$F7,$94,$94,$F7
                    LE2
3C90: 00 B9 20
3C93: 20 B9 A1
3C96: A1 BD                 DFB  0,$B9,$20,$20,$B9,$A1,$A1,$BD
                    LSE
3C98: 00 EF 28
3C9B: 28 EE 08
3C9E: 08 EF                 DFB  0,$EF,$28,$28,$EE,$08,$08,$EF
                    LN
3CA0: 00 44 4C
3CA3: 4C 54 54
3CA6: 64 45                 DFB  0,$44,$4C,$4C,$54,$54,$64,$45
                    LTS
3CA8: 00 47 40
3CAB: 40 47 44
3CAE: 44 F7                 DFB  0,$47,$40,$40,$47,$44,$44,$F7
                    LS
3CB0: 00 C0 40
3CB3: 40 C0 00
3CB6: 00 C0                 DFB  0,$C0,$40,$40,$C0,$00,$00,$C0
                                        ;
3CB8: 00 00 00
3CBB: 00 00 00
3CBE: 00 00 00
3CC1: 00            NULL    DFB  0,0,0,0,0,0,0,0,0,0
                    * LETTER "G"
                    ********************************
                    LG
3CC2: 00 7C 84
3CC5: 8E 80 80
3CC8: 84 7C 00              DFB  $00,$7C,$84,$8E,$80,$80,$84,$7C,0
                    * LETTER "V"
                    ********************************
                    LV
3CCB: 00 0C 0C
3CCE: 12 12 21
```

```
3CCE: 12 12 21
3CD1: 21 21                     DFB  0,$0C,$0C,$12,$12,$21,$21,$21
                                                    ;
                     POS
3CD3: 85 02                     STA  ATWAIT
3CD5: 95 20                     STA  ATSAIN,X
3CD7: 29 0F                     AND  #$0F
3CD9: A8                        TAY
3CDA: A5 DD                     LDA  BAND
3CDC: A5 DD                     LDA  BAND
3CDE: A5 DD                     LDA  BAND
3CE0: A5 DD                     LDA  BAND           ;CY 20.
                     POS10
3CE2: 88                        DEY
3CE3: 10 FD                     BPL  POS10
3CE5: 95 10                     STA  ATSALA,X
3CE7: 85 02                     STA  ATWAIT
3CE9: 85 2A                     STA  ATMVIN
3CEB: 60                        RTS
                                                    ;
                     * POSITIONS FOR CHANNEL SELECT->
                     LETPOS
3CEC: 2E 36 3E
3CEF: 46 4E                     DFB  $2E,$36,$3E,$46,$4E
```

```
                     OBJ  $8D02
                     ORG  $3CFE
            *********************************
            * ORCHARD SCREEN PAINT FILE     *
            *********************************
                     PUT  MR.DO.ORCHARD
            */ MR.DO.ORCHARD LASTED:7/27/83.
            *********************************
            PAINT
            * JP INTO POS SA & SB TO GET STARTED.
            *********************************
3CFE: A9 00          LDA  #SCRCOL
3D00: 85 02          STA  ATWAIT
3D02: 85 09          STA  ATSCOL       ;COLOR SCREEN.
                                       ;
3D04: A2 07          LDX  #7
3D06: 86 DD          STX  BAND         ;INIT BAND NUM FOR 8 BANDS.
3D08: A5 8F          LDA  FCOLOR
3D0A: 85 08          STA  ATFCOL
3D0C: A9 10          LDA  #$10         ;2X PWR BALL.
3D0E: 8D 04 00       STAH ATACTL       ;CY 20.
                                       ;PAINT ASYM FIELD-->
3D11: B5 98          LDA  FR1L,X
3D13: 85 0E          STA  ATFR1
3D15: B5 A0          LDA  FR2L,X
3D17: 85 0F          STA  ATFR2
3D19: B5 B0          LDA  FR1R,X
3D1B: 85 0E          STA  ATFR1
3D1D: B5 A8          LDA  FR2R,X
3D1F: 85 0F          STA  ATFR2        ;CY 48.
                                       ;
                                       ;KILL 19 CY BEFORE JMP->
3D21: A0 03          LDY  #3
            DLAY15
3D23: 88             DEY
3D24: D0 FD          BNE  DLAY15
3D26: A6 DD          LDX  BAND
3D28: 4C 06 3E       JMP  POSA-5
                                       ;CY 70.
```

```
                                                     ;
                * A NEW BAND IS ABOUT TO BEGIN-->
                *--------------------------------
                                                     ;Y=5
                *******************************
                * START OF:     ASYM            *
                *               POS SA          *
                *               POS SB SEQUENCE. *
                *******************************
3D2B: 85 08                 STA   ATFCOL
3D2D: 85 02                 STA   ATWAIT
                ASYM
3D2F: B1 E5                 LDA   (ADAT),Y
3D31: 85 1B                 STA   ATADAT
3D33: F0 77                 BEQ   ASYMA         ;JP SA DONE.
3D35: B1 F6                 LDA   (BDAT),Y
3D37: 85 1C                 STA   ATBDAT
3D39: EA                    NOP                 ;CY 20.
                                                ;ASYM FIELD-->
3D3A: B5 98                 LDA   FR1L,X
3D3C: 85 0E                 STA   ATFR1
3D3E: B5 A0                 LDA   FR2L,X
3D40: 85 0F                 STA   ATFR2
3D42: B5 B0                 LDA   FR1R,X
3D44: 85 0E                 STA   ATFR1
3D46: B5 A8                 LDA   FR2R,X
3D48: 85 0F                 STA   ATFR2         ;CY 48.
                                                ;
3D4A: B1 F6                 LDA   (BDAT),Y
3D4C: F0 28                 BEQ   ASYMB         ;JP SB DONE.
3D4E: B5 DE                 LDA   LODATA,X      ;SET UP DATA PTRS FOR NEXT BAND.
3D50: 85 E5                 STA   ADAT
3D52: B5 EF                 LDA   LODATB,X
3D54: 85 F6                 STA   BDAT
3D56: A0 11                 LDY   #17           ;LN+1.
3D58: B1 E5                 LDA   (ADAT),Y      ;CY 76.
                                                ;
```

```
                 * NEITHER SPRITE IS DONE (CONT W/DATA).
                 **********************************
                 NPOSA2
3D5A: 85 1B               STA  ATADAT
3D5C: A9 00               LDA  #SCRCOL
3D5E: 8D 08 00            STAH ATFCOL       ;FIELD OFF.
3D61: B1 F6               LDA  (BDAT),Y
3D63: 85 1C               STA  ATBDAT       ;CY 17.
3D65: 88                  DEY
3D66: 06 DC               ASL  PTR          ;SHIFT PAGE PTR.
3D68: 85 02               STA  ATWAIT
                 NPOSB2
3D6A: B1 E5               LDA  (ADAT),Y
3D6C: 85 1B               STA  ATADAT
3D6E: B1 F6               LDA  (BDAT),Y
3D70: 85 1C               STA  ATBDAT       ;CY 16.
3D72: 88                  DEY
3D73: 4C 38 3E            JMP  ASYMV-4      ;PICK UP AT ASYM W/MOVE.
```

```
                * ONLY SB IS TO BE POSED-->
                *******************************
                ASYMB
3D76: B5 DE             LDA  LODATA,X
3D78: 85 E5             STA  ADAT
3D7A: B5 EF             LDA  LODATB,X
3D7C: 85 F6             STA  BDAT
3D7E: A0 11             LDY  #17         ;LN+1.
3D80: EA                NOP
3D81: A9 00             LDA  #SCRCOL     ;CY 76.
                NPOSA1
3D83: 85 08             STA  ATFCOL
3D85: B1 E5             LDA  (ADAT),Y
3D87: 85 1B             STA  ATADAT
3D89: 88                DEY
3D8A: A9 0E             LDA  #WHITE      ;DEFAULT COLOR.
3D8C: 85 07             STA  ATBCOL
                                         ;PREPARE TO POS SB->
3D8E: B5 F8             LDA  BPOF,X
3D90: 85 21             STA  ATSBIN
3D92: 29 0F             AND  #$0F
3D94: AA                TAX
                                         ;NO PAGE SETUP NEEDED BUT->
3D95: 06 DC             ASL  PTR         ;SHIFT PAGE FLAGS.
3D97: 85 02             STA  ATWAIT
                POSB1
3D99: B1 E5             LDA  (ADAT),Y
3D9B: 85 1B             STA  ATADAT
3D9D: 88                DEY
3D9E: A5 DD             LDA  BAND        ;NOP.
3DA0: B1 E5             LDA  (ADAT),Y    ;A DATA NEXT LINE.
                                         ;CY 18.
                LATB1
3DA2: CA                DEX
3DA3: 10 FD             BPL  LATB1
3DA5: A6 DD             LDX  BAND
3DA7: 85 11             STA  ATSBLA      ;LATCH SB.
3DA9: 4C 3A 3E          JMP  ASYMV-2     ;PICK UP AT ASYM W/MOVE.
```

```
                * AT LEAST SA MUST BE POSED->
                **********************************
                ASYMA
3DAC: B1 F6                LDA  (BDAT),Y
3DAE: 8D 1C 00             STAH ATBDAT       ;CY 20
                                             ;ASYM FIELD-->
3DB1: B5 98                LDA  FR1L,X
3DB3: 85 0E                STA  ATFR1
3DB5: B5 A0                LDA  FR2L,X
3DB7: 85 0F                STA  ATFR2
3DB9: B5 B0                LDA  FR1R,X
3DBB: 85 0E                STA  ATFR1
3DBD: B5 A8                LDA  FR2R,X
3DBF: 85 0F                STA  ATFR2        ;CY 48.
                                             ;
3DC1: B1 F6                LDA  (BDAT),Y
3DC3: F0 39                BEQ  ASYMAB       ;JP BOTH SPRITES MUST BE POSITIONE
D.
3DC5: B5 DE                LDA  LODATA,X     ;SET UP DATA PTRS FOR NEXT BAND.
3DC7: 85 E5                STA  ADAT
3DC9: B5 EF                LDA  LODATB,X
3DCB: 85 F6                STA  BDAT
3DCD: A0 11                LDY  #17          ;LN+1
3DCF: B1 F6                LDA  (BDAT),Y     ;CY 76.
                                             ;
                * ONLY SA MUST BE POSED-->
                **********************************
                POSA1
3DD1: 85 1C                STA  ATBDAT
3DD3: A9 00                LDA  #SCRCOL
3DD5: 8D 08 00             STAH ATFCOL       ;FIELD OFF.
3DD8: B5 E7                LDA  APOF,X
3DDA: 8D 20 00             STAH ATSAIN
3DDD: 29 0F                AND  #$0F
3DDF: AA                   TAX               ;CY 21.
                LATCH1
3DE0: CA                   DEX
3DE1: 10 FD                BPL  LATCH1
3DE3: 85 10                STA  ATSALA       ;LATCH SA.
3DE5: A6 DD                LDX  BAND
3DE7: 85 02                STA  ATWAIT
                                             ;
                * DON'T POS SPRITE B (CONT W/DATA).
                **********************************
                NPOSB
3DE9: 88                   DEY
3DEA: B1 F6                LDA  (BDAT),Y
3DEC: 85 1C                STA  ATBDAT
3DEE: A9 9A                LDA  #BLUE        ;DEFAULT COLOR.
3DF0: 85 06                STA  ATACOL
3DF2: 88                   DEY
                                             ;SELECT SA PAGE->
3DF3: A9 3A                LDA  #>IMG1
3DF5: 06 DC                ASL  PTR
3DF7: 69 00                ADC  #0
3DF9: 85 E6                STA  HIDATA
                                             ;
3DFB: 4C 38 3E             JMP  ASYMV-4      ;PICK UP AT ASYMV.
```

```
                * BOTH SA & SB MUST BE POSED-->
                ********************************
                ASYMAB
                                               ;CY 56.
3DFE: B5 DE              LDA  LODATA,X         ;SET UP DATA PTRS FOR NEXT BAND.
3E00: 85 E5              STA  ADAT
3E02: B5 EF              LDA  LODATB,X
3E04: 85 F6              STA  BDAT
3E06: A9 00              LDA  #SCRCOL
3E08: 8D 08 00           STAH ATFCOL           ;CY 76.
                POSA
3E0B: B5 E7              LDA  APOF,X
3E0D: 8D 20 00           STAH ATSAIN
3E10: 29 0F              AND  #$0F
3E12: A8                 TAY
                                               ;FIG SA PAGE->
3E13: A9 3A              LDA  #>IMG1
3E15: 06 DC              ASL  PTR
3E17: 69 00              ADC  #0               ;CY 21.
                LAT
3E19: 88                 DEY
3E1A: 10 FD              BPL  LAT
3E1C: 85 10              STA  ATSALA           ;LATCH SA.
3E1E: 85 E6              STA  HIDATA
3E20: A9 0E              LDA  #WHITE           ;DEFAULT COLOR.
3E22: 85 02              STA  ATWAIT
                POSB
3E24: 85 07              STA  ATBCOL           ;MR DO COLOR.
3E26: A9 9A              LDA  #BLUE            ;DEFAULT COLOR.
3E28: 85 06              STA  ATACOL           ;DIG COLOR.
3E2A: B5 F8              LDA  BPOF,X
3E2C: 85 21              STA  ATSBIN
3E2E: 29 0F              AND  #$0F
3E30: A8                 TAY                   ;CY 19.
                LATB
3E31: 88                 DEY
3E32: 10 FD              BPL  LATB
3E34: A0 0F              LDY  #15              ;LN-1
3E36: 85 11              STA  ATSBLA           ;LATCH SB.
3E38: B1 E5              LDA  (ADAT),Y
3E3A: 85 02              STA  ATWAIT
                                               ;
```

```
                 * ASYM FIELD W/FINE POSITIONING
                 ********************************
                 ASYMV
3E3C: 85 2A                      STA  ATMVIN      ;FINE POSITION.
3E3E: 85 1B                      STA  ATADAT
3E40: A5 8F                      LDA  FCOLOR
3E42: 85 08                      STA  ATFCOL      ;FIELD ON.
3E44: B1 F6                      LDA  (BDAT),Y
3E46: 85 1C                      STA  ATBDAT      ;CY 20.
                                                  ;ASYM FIELD->
3E48: B5 98                      LDA  FR1L,X
3E4A: 85 0E                      STA  ATFR1
3E4C: B5 A0                      LDA  FR2L,X
3E4E: 85 0F                      STA  ATFR2
3E50: B5 B0                      LDA  FR1R,X
3E52: 85 0E                      STA  ATFR1
3E54: B5 A8                      LDA  FR2R,X
3E56: 85 0F                      STA  ATFR2       ;CY 48.
                                                  ;
                                                  ;DO SA COLOR TEST HERE-->
3E58: A9 00                      LDA  #<CHERRY
3E5A: C5 F6                      CMP  BDAT
3E5C: F0 04                      BEQ  YCHRY       ;JP IF CHERRY.
3E5E: A9 00                      LDA  #0
3E60: F0 06                      BEQ  NCHRY
                 YCHRY
3E62: A9 22                      LDA  #RED
3E64: 85 07                      STA  ATBCOL      ;COLOR CHERRY.
3E66: B5 90                      LDA  CHERRYC,X
                 NCHRY
3E68: 85 05                      STA  ATBCTL
3E6A: 88                         DEY
3E6B: A9 00                      LDA  #SCRCOL     ;FIELD OFF.
3E6D: 85 02                      STA  ATWAIT      ;CY 75.(WORST CASE).
```

```
                * SPRITE DATA LINE 1--->
                * (ALT. COLOR TESTS,MIS TESTS).
                ********************************
                SDAT1
3E6F: 85 08              STA  ATFCOL      ;FLD OFF.
3E71: B1 E5              LDA  (ADAT),Y
3E73: 85 1B              STA  ATADAT
3E75: B1 F6              LDA  (BDAT),Y
3E77: 85 1C              STA  ATBDAT      ;CY 19.
                                          ;
3E79: A9 3A              LDA  #<APEND     ;E-O-APPLE IMAGES.
3E7B: C5 E5              CMP  ADAT
3E7D: 90 04              BCC  MTEST       ;JP NOT APPLE.
3E7F: A9 28              LDA  #ORANGE
3E81: 85 06              STA  ATACOL      ;COLOR APPLE.
                                          ;CY 31
                MTEST
3E83: A5 BA              LDA  MSBAND
3E85: C5 DD              CMP  BAND
3E87: D0 08              BNE  NOMIS       ;JP NOT MISSLE BAND.
3E89: C4 B9              CPY  MISLN
3E8B: D0 04              BNE  NOMIS       ;JP NOT MISSLE LINE.
3E8D: A9 02              LDA  #2
3E8F: 85 1D              STA  ATENMA      ;TURN MISSLE ON.
                NOMIS
3E91: 88                 DEY
3E92: 85 02              STA  ATWAIT
```

```
                * SPRITE DATA,END-OF-BAND & END-OF-PLAYFIELD TESTING.
                ***********************************************
                SDAT2
3E94: B1 E5              LDA  (ADAT),Y
3E96: 85 1B              STA  ATADAT
3E98: B1 F6              LDA  (BDAT),Y
3E9A: 85 1C              STA  ATBDAT
3E9C: A5 BA              LDA  MSBAND
3E9E: C5 DD              CMP  BAND          ;CY 22.
3EA0: F0 0A              BEQ  MIS1          ;J IF MIS BAND.
3EA2: CA                 DEX                ;DEC BAND INCASE NUBAND.
3EA3: EA                 NOP
3EA4: EA                 NOP
3EA5: EA                 NOP
3EA6: EA                 NOP
3EA7: EA                 NOP
3EA8: EA                 NOP
3EA9: 4C BE 3E           JMP  CYCL41        ;CY 41
                MIS1
3EAC: C4 B9              CPY  MISLN         ;CY 28.
3EAE: F0 07              BEQ  MIS2          ;J IF MIS LN.
3EB0: CA                 DEX                ;DEC BAND INCASE NUBAND.
3EB1: EA                 NOP
3EB2: EA                 NOP
3EB3: EA                 NOP
3EB4: 4C BE 3E           JMP  CYCL41        ;CY 41
                MIS2
3EB7: A9 02              LDA  #2            ;MIS ON.
3EB9: 85 1D              STA  ATENMA        ;CY 36.
3EBB: A6 DD              LDX  BAND          ;DEX INCASE NU BAND TIME.
3EBD: CA                 DEX                ;CY 41
                CYCL41
                                            ;
3EBE: 88                 DEY
3EBF: F0 34              BEQ  NUBAND        ;MUST JP A CY 46.
3EC1: A6 DD              LDX  BAND          ;GET CORRECT BAND NUM BACK.
3EC3: A5 8F              LDA  FCOLOR
3EC5: 85 02              STA  ATWAIT
```

```
                      * ASYM FIELD W/SPRITE DATA.
                      ********************************
                      ASYMD
3EC7: 85 08                    STA  ATFCOL
3EC9: B1 E5                    LDA  (ADAT),Y
3ECB: 85 1B                    STA  ATADAT
3ECD: B1 F6                    LDA  (BDAT),Y
3ECF: 8D 1C 00                 STAH ATBDAT          ;CY 20.
                                                    ;ASYM FIELD->
3ED2: B5 98                    LDA  FR1L,X
3ED4: 85 0E                    STA  ATFR1
3ED6: B5 A0                    LDA  FR2L,X
3ED8: 85 0F                    STA  ATFR2
3EDA: B5 B0                    LDA  FR1R,X
3EDC: 85 0E                    STA  ATFR1
3EDE: B5 A8                    LDA  FR2R,X
3EE0: 85 0F                    STA  ATFR2           ;CY 48.
                                                    ;
3EE2: 88                       DEY

3EE3: EA                       NOP
3EE4: EA                       NOP
3EE5: EA                       NOP
3EE6: EA                       NOP
3EE7: EA                       NOP
3EE8: EA                       NOP
                                                    ;
3EE9: A9 00                    LDA  #0
3EEB: 85 1D                    STA  ATENMA          ;TURN MISSLE OFF.
3EED: AE DD 00                 LDXH BAND
3EF0: A9 00                    LDA  #SCRCOL
3EF2: 4C 6F 3E                 JMP  SDAT1           ;CY 76.
                                                    ;
```

```
                 NUBAND
3EF5: 85 2B                    STA   ATREMV
3EF7: C6 DD                    DEC   BAND
3EF9: 30 0B                    BMI   FIN           ;JP DONE ALL BANDS.
                                                   ;
                 * PREPARE TO START A NEW BAND  *
                 ********************************
3EFB: A9 00                    LDA   #0
3EFD: 85 05                    STA   ATBCTL        ;1X,1C=DEFAULT CONTROL.
3EFF: 85 1D                    STA   ATENMA        ;MIS OFF.
3F01: A5 8F                    LDA   FCOLOR
3F03: 4C 2B 3D                 JMP   ASYM-4        ;CY 70.
                 * PLAYFIELD IS DONE-->
                 ********************************
                 FIN
3F06: 85 02                    STA   ATWAIT
3F08: A9 00                    LDA   #0
3F0A: 85 1B                    STA   ATADAT
3F0C: 85 1C                    STA   ATBDAT
3F0E: 85 1D                    STA   ATENMA        ;PWR BALL OFF.
                 * PAINT A BAR AT BOTTOM OF PLAYFIELD->
                 ********************************
3F10: A9 FF                    LDA   #$FF
                                                   ;FLD ON->
3F12: A4 8F                    LDY   FCOLOR
3F14: 84 08                    STY   ATFCOL
3F16: 85 0E                    STA   ATFR1
3F18: 85 0F                    STA   ATFR2
                                                   ;
3F1A: 85 02                    STA   ATWAIT
3F1C: A9 00                    LDA   #SCRCOL
3F1E: 85 08                    STA   ATFCOL        ;FLD OFF.
3F20: A2 00                    LDX   #0
3F22: 86 0D                    STX   ATFR0
3F24: 86 0E                    STX   ATFR1
3F26: 86 0F                    STX   ATFR2
                                                   ;
```

```
3F28: A9 39             LDA  #>MRDOLL
3F2A: 85 F0             STA  TEMP2
3F2C: 85 F2             STA  TEMP4       ;SETUP INV PTRS HI.
3F2E: A9 2A             LDA  #<MRDOLL+8
3F30: 85 EF             STA  TEMP1
3F32: 85 F1             STA  TEMP3       ;IBID LO.
3F34: A2 34             LDX  #<NULLB     ;NULL IMG.
                                         ;
                  * LATCH SPRITES FOR INVENTORY->
                  *******************************
3F36: A0 04             LDY  #4
3F38: 85 02             STA  ATWAIT
                  POSI
3F3A: 88                DEY
3F3B: 10 FD             BPL  POSI
3F3D: 85 10             STA  ATSALA
3F3F: EA                NOP
3F40: EA                NOP
3F41: EA                NOP
3F42: EA                NOP
3F43: EA                NOP
3F44: A5 DD             LDA  BAND
3F46: 85 11             STA  ATSBLA
                                         ;
3F48: 85 02             STA  ATWAIT
3F4A: A9 D6             LDA  #GREEN
3F4C: 85 09             STA  ATSCOL
3F4E: A9 0E             LDA  #WHITE
3F50: 85 06             STA  ATACOL
3F52: 85 07             STA  ATBCOL
                                         ;
                  * PAINT MR DO INVENTORY-->
                  *******************************
3F54: A4 DB             LDY  DOINV       ;# MR DO'S LEFT.
3F56: B9 84 3F          LDA  INVTBL,Y
3F59: 30 04             BMI  INV2        ;JP INV<4 BUT >0.
3F5B: D0 04             BNE  INV3        ;JP SOME DO'S LEFT.
3F5D: 86 EF             STX  TEMP1       ;SA=NULL
                  INV2
3F5F: 86 F1             STX  TEMP3       ;SB= NULL.
                  INV3
3F61: 85 04             STA  ATACTL
3F63: 4A                LSR
3F64: 4A                LSR
3F65: 4A                LSR
3F66: 4A                LSR
3F67: 85 05             STA  ATBCTL
                                         ;
                  * PAINT MR.DO INVENTORY->
                  *******************************
                  INVENT
3F69: A0 07             LDY  #7
                  DOLOOP
3F6B: 85 02             STA  ATWAIT
3F6D: B1 EF             LDA  (TEMP1),Y
3F6F: 85 1B             STA  ATADAT
3F71: B1 F1             LDA  (TEMP3),Y
3F73: 85 1C             STA  ATBDAT
3F75: 88                DEY
3F76: 10 F3             BPL  DOLOOP      ;PAINT MR.DO INVENTORY.
3F78: C8                INY
3F79: 84 1B             STY  ATADAT
3F7B: 84 1C             STY  ATBDAT
3F7D: 84 1B             STY  ATADAT
3F7F: 84 1C             STY  ATBDAT
3F81: 4C 07 30          JMP  BVISW       ;GO DO BOTVI.
```

```
3F81: 4C 07 30 >471             JMP  BVISW       ;GO DO BOTVI.
               >472  INVTBL
3F84: 00 80 81
3F87: 83 03 13
3F8A: 33       >473             DFB  0,$80,$81,$83,$03,$13,$33
```

```
                 **********************************
                 * DISPLAY RTN FOR 6 SPRITES      *
                 **********************************
                          PUT  MR.DO.SCORE RTN
                 */SCORE RTN LAST EDIT: 6/23/83
                 *.....SCORE.....
                 *FUNCTION   SCORE DISPLAYS A 6 DIGIT SCORE
                 *
                 SCORE
3F8B: 85 02               STA  ATWAIT
3F8D: A2 00               LDX  #BLACK
3F8F: 86 09               STX  ATSCOL
3F91: A9 03               LDA  #3
3F93: 85 02               STA  ATWAIT
3F95: 85 04               STA  ATACTL     ;1X 3C 8S
3F97: 85 05               STA  ATBCTL
3F99: 85 25               STA  ATASEL     ;GET READY TO LOAD OUTER BUFF
3F9B: 85 26               STA  ATBSEL
                 *ADJ INCR SO SPRITES ARE SIDE BY SIDE
3F9D: A9 10               LDA  #$10
3F9F: 85 20               STA  ATSAIN
3FA1: 0A                  ASL
3FA2: 85 21               STA  ATSBIN
3FA4: EA                  NOP
3FA5: EA                  NOP
3FA6: EA                  NOP
3FA7: EA                  NOP
3FA8: EA                  NOP
3FA9: EA                  NOP
3FAA: EA                  NOP
3FAB: 85 10               STA  ATSALA     ;LATCH SPRITE A
3FAD: 85 11               STA  ATSBLA     ;B 9 PIXLES LATER
                 * ENTER HERE FOR 6 SPRITES W/O POS.
                 SCORE1
3FAF: 85 02               STA  ATWAIT
3FB1: 85 2A               STA  ATMVIN     ;MOVE FINE INCR
                                          ;
3FB3: A9 07               LDA  #7
3FB5: 85 EF               STA  TEMP1      ;LINE COUNT
                 *ACTUAL PAINTING OF DIGITS
                 SC4
3FB7: A4 EF               LDY  TEMP1
3FB9: B1 F2               LDA  (PD100K),Y ;GET 100K DATA
3FBB: 85 1B               STA  ATADAT     ;WRITE TO OUTER BUFF(UNSEEN)
3FBD: 85 02               STA  ATWAIT
3FBF: B1 F4               LDA  (PD10K),Y  ;GET 10K DATA
3FC1: 85 1C               STA  ATBDAT     ;TO OUTER BUFF(100K SEEN NOW)
3FC3: B1 F6               LDA  (PD1K),Y   ;GET 1K DATA
3FC5: 85 1B               STA  ATADAT     ;TO BUFFER (10K SEEN NOW)
3FC7: B1 F8               LDA  (PD100),Y  ;GET 100'S DATA
3FC9: 85 F0               STA  TEMP2      ;TUCK AWAY
3FCB: B1 FA               LDA  (PD10),Y   ;GET 10'S DATA
3FCD: AA                  TAX             ;TUCK AWAY IH X
3FCE: B1 FC               LDA  (PD1),Y    ;1'S DATA
3FD0: A8                  TAY             ;SAVE IT FOR TIME CRITICAL
3FD1: A5 F0               LDA  TEMP2      ;RETRIEVE 100'S DATA
3FD3: 85 1C               STA  ATBDAT     ;100 TO BUFF, 1K SEEN
3FD5: 86 1B               STX  ATADAT     ;10 TO BUFF, 100 SEEN NOW
3FD7: 84 1C               STY  ATBDAT     ;1 TO BUFF, 10 SEEN NOW
3FD9: 84 1B               STY  ATADAT     ;DUMMY WRITE TO BUFF,1 SEEN NOW
3FDB: C6 EF               DEC  TEMP1      ;LINE COUNT
3FDD: 10 D8               BPL  SC4        ;LOOPTILL DONE
                 *
                 *RESET CONTROL AND DATA REGS
3FDF: A9 00               LDA  #0
3FE1: 85 1B               STA  ATADAT
3FE3: 85 1C               STA  ATBDAT
```

```
3FE1: 85 1B              STA  ATADAT
3FE3: 85 1C              STA  ATBDAT
3FE5: 85 2B              STA  ATREMV
               *         STA ATASEL        ;SEL IMMED MODE.
               *         STA ATBSEL
3FE7: 60                 RTS
```

```
                                OBJ  $9000
                                ORG  $3FFC
3FFC: 0E 30                     DA   INITSW
                         END

--End assembly--

2 bytes

Errors: 0

Symbol table - alphabetical order:

   ADAT    =$E5        ADUR    =$88        AIDX    =$86        ALFSET  =$33E0
   ALPHA   =$8B        AMUSFW  =$3673      AMUSVT  =$36D0      ANIM8   =$8E
   ANIM9   =$3054      APBAND  =$D0        APEND   =$3A3A      APFALL  =$8D
   APIMG   =$323C      APLFR5  =$312F    ? APLFRM  =$312A      APOF    =$E7
 ? APPLE0  =$3A00      APPLE1  =$3A00      APPLE2  =$3A0E      APPLE3  =$3A1C
   APPLE4  =$3A2A      APPLE5  =$3A38      APPOF   =$D4        APR50   =$30F1
   APRAM   =$30C5    ? AS1FW   =$3673    ? AS1VT   =$36D0    ? AS2FW   =$36A4
 ? AS2VT   =$3701    ? AS3FW   =$36C4    ? AS3VT   =$3721      ASYM    =$3D2F
   ASYMA   =$3DAC      ASYMAB  =$3DFE      ASYMB   =$3D76    ? ASYMD   =$3EC7
   ASYMV   =$3E3C      ATACOL  =$06        ATACTL  =$04        ATADAT  =$1B
   ATADIV  =$17        ATASEL  =$25        ATAVOL  =$19        ATAWAV  =$15
   ATBCOL  =$07        ATBCTL  =$05        ATBDAT  =$1C        ATBDIV  =$18
   ATBLNK  =$01        ATBSEL  =$26        ATBVOL  =$1A        ATBWAV  =$16
   ATENFM  =$1F        ATENMA  =$1D      ? ATENMB  =$1E        ATFCOL  =$08
 ? ATFCTL  =$0A        ATFR0   =$0D        ATFR1   =$0E        ATFR2   =$0F
 ? ATFSEL  =$27      ? ATHORC  =$03      ? ATJBA   =$3C      ? ATJBB   =$3D
   ATMVIN  =$2A        ATREMV  =$2B        ATSAIN  =$20        ATSALA  =$10
   ATSBIN  =$21        ATSBLA  =$11        ATSCOL  =$09      ? ATSYNC  =$00
   ATWAIT  =$02        BAND    =$DD        BAND1   =$34A2      BDAT    =$F6
   BDUR    =$89      ? BEEP    =$37F3    ? BELLS   =$37FF      BIDX    =$87
   BLACK   =$00        BLANK   =$38E0      BLUE    =$9A        BMUSFW  =$372D
   BMUSVT  =$378A    ? BOOP    =$37F9      BOTOFF  =$3653    ? BOTTIM  =$9F
   BOTVI   =$202E      BPOF    =$F8      ? BROWN   =$12      ? BS1FW   =$372D
 ? BS1VT   =$378A    ? BS2FW   =$375E    ? BS2VT   =$37BB    ? BS3FW   =$377E
 ? BS3VT   =$37DB      BVISW   =$3007      CDAT    =$3464    ? CHER1   =$3807
 ? CHER2   =$3814    ? CHER3   =$3821    ? CHER4   =$382E    ? CHER5   =$383B
 ? CHER6   =$3848      CHERRY  =$3900      CHERRYS =$345C      CHERRYC =$90
 ? CHERRYT =$8C        CHRPOS  =$3663      COLECO  =$39AA      COMP1   =$3191
   COMP15  =$319A      COMP2   =$31A2      COMP3   =$31B2      COMPET  =$318C
   CPETE   =$31AF      CPETE2  =$31B7      CYCL41  =$3EBE      DATA1   =$3890
   DATA2   =$3C00    ? DEADSND =$37EB      DIG12   =$3109      DIG13   =$3112
   DIG15   =$3115      DIG17   =$3122    ? DIG18   =$3127      DIG33   =$3144
   DIG40   =$3153      DIG45   =$3162      DIG50   =$3171      DIG60   =$317D
   DIG99   =$3189      DIGBAND =$BE        DIGDAT  =$C4      ? DIGDIR  =$C6
   DIGIMG  =$324C    ? DIGINV  =$8A      ? DIGIQ   =$CC        DIGITS  =$3890
   DIGLL   =$3A70      DIGLR   =$3A4F      DIGPOF  =$C1      ? DIGSPD  =$C8
 ? DIGTIM  =$CA        DLAY15  =$3D23      DO1     =$3378      DOBAND  =$BD
   DODAT   =$C3        DODEAD  =$20        DOINV   =$DB        DOLOOP  =$3F6B
   DOPOF   =$C0        DOTIME  =$3477    ? DOWND   =$01      ? DOWNI   =$04
   DUGLL   =$3A92      DUGLR   =$3AB4      DUGRL   =$3B20      DUGRR   =$3B00
   EIGHT   =$38D0      END     =$3FFE      ENDMID  =$325C      FCOLOR  =$8F
   FIN     =$3F06      FIRST   =$31CD      FIVE    =$38B8      FOUR    =$38B0
   FR1L    =$98        FR1R    =$B0        FR2L    =$A0        FR2R    =$A8
   FRAMEH  =$85        FRAMEL  =$84        FTEST   =$346E      GAME    =$80
   GAMETB  =$39C3      GAMOVR  =$40        GAMSPD  =$327B    ? GOLD    =$16
   GREEN   =$D6        HIDATA  =$E6        HIDATB  =$F7        HOLD10  =$335B
   HOLD7   =$3329      HOLD9   =$3340      HOLDUP  =$3312      ICHERRY =$3442
   IMG1    =$3A00    ? IMG2    =$3B00      IMG5    =$32B6      IMG6    =$32E1
   INITSW  =$300E      INV2    =$3F5F      INV3    =$3F61    ? INVENT  =$3F69
   INVTBL  =$3F84    ? IOADIR  =$0281    ? IOBDIR  =$0283      ISA     =$3086
 ? JOYADN  =$20      ? JOYALT  =$40      ? JOYART  =$80      ? JOYAUP  =$10
```

```
?  JOYBDN   =$02       ?  JOYBLT   =$04      ?  JOYBRT   =$08      ?  JOYBUP   =$01
?  JOYDAT   =$0280        LA       =$3C60       LASTJY   =$B8         LAT      =$3E19
   LATB     =$3E31        LATB1    =$3DA2       LATCH1   =$3DE0    ?  LBLUE    =$96
   LC       =$3C70        LD       =$3C20       LE       =$3C30       LE2      =$3C90
?  LEFTD    =$03       ?  LEFTI    =$0C      ?  LETIMG   =$3252       LETPOS   =$3CEC
   LETRA    =$3BCD        LETRE    =$3B49       LETRR    =$3BAC       LETRT    =$3B8B
   LETRX    =$3B6A        LETTBL   =$39CF    ?  LETTRS   =$3C00       LG       =$3CC2
   LL       =$3C78        LM       =$3C00       LN       =$3CA0       LO       =$3C80
   LODATA   =$DE          LODATB   =$EF         LOH      =$3C28       LPR      =$3C88
   LR       =$3C08        LS       =$3CB0       LSE      =$3C98       LSTLFT   =$3052
   LT       =$3C50        LTS      =$3CA8       LV       =$3CCB       LX       =$3C40
   MDON     =$34D6        MDPOF    =$34DA       MDPTL    =$3248       MDPTR    =$324A
   MIDTIM   =$AD          MIS1     =$3EAC       MIS2     =$3EB7    ?  MISDIR   =$BC
   MISLN    =$B9          MISPOF   =$BB         MODE     =$DA      ?  MRDOIMG  =$3248
   MRDOLL   =$3922        MRDOLR   =$3988       MRDORL   =$3944       MRDORR   =$3966
   MRDOT1   =$39B6        MRDOTB   =$39B7       MSBAND   =$BA         MTEST    =$3E83
   MUS15    =$3541        MUS2     =$350E       MUS25    =$354A       MUS5     =$3522
   MUS50    =$354C        MUS55    =$3564       MUS65    =$3583       MUS75    =$358C
   MUSIC    =$3507        MUX      =$CE         NCHRY    =$3E68       NDIG     =$3038
   NINE     =$38D8        NODO     =$34A9       NOMIS    =$3E91       NOPWR    =$3440
   NORK     =$3068        NORM     =$33EF       NORMAP   =$30C1       NOTSEL   =$3353
?  NPOSA1   =$3D83     ?  NPOSA2   =$3D5A    ?  NPOSB    =$3DE9    ?  NPOSB2   =$3D6A
   NUBAND   =$3EF5        NULL     =$3CB8       NULL1    =$3AE4       NULLB    =$3934
   NULLTB   =$39BD        OK2      =$301F       ONE      =$3898       ORANGE   =$28
   ORCHARD  =$338B        ORK      =$306B       ORKSCR   =$329D       OVERTB   =$39C9
   PAINT    =$3CFE        PD1      =$FC         PD10     =$FA         PD100    =$F8
   PD100K   =$F2          PD10K    =$F4         PD1K     =$F6         PLAY     =$10
   POS      =$3CD3        POS10    =$3CE2       POSA     =$3E0B    ?  POSA1    =$3DD1
?  POSB     =$3E24     ?  POSB1    =$3D99       POSI     =$3F3A       POSTBL   =$35C2
   PRESNT   =$39B0        PTR      =$DC         PTRBIT   =$31DE       PTRDON   =$31E7
?  PURPLE   =$68          PW3      =$34E1       PWAIT    =$34E1    ?  PWRTIM   =$D8
?  RANDOM   =$D9          RED      =$22         RESUM    =$80         REVA     =$3C68
   REVE     =$3C38        REVR     =$3C10       REVT     =$3C58       REVTBL   =$39D5
   REVX     =$3C48     ?  RIGHTD   =$02      ?  RIGHTI   =$08      ?  ROUND    =$81
   SBIMG    =$3900        SC4      =$3FB7       SCORE    =$3F8B       SCORE1   =$3FAF
   SCORHI   =$83          SCORLO   =$82         SCORTB   =$38E8       SCRCOL   =$00
   SDAT1    =$3E6F     ?  SDAT2    =$3E94       SELECT   =$30      ?  SETRAM   =$307C
   SEVEN    =$38C8        SIX      =$38C0       SMLR     =$3C18       SND5     =$35A6
   SND80    =$35BF        SND99    =$35C1       SNDTBL   =$37EB       SOUND    =$3591
   SPR6     =$39E7        SPRIT6   =$39DB    ?  SWIADF   =$40      ?  SWIBDF   =$80
?  SWICOL   =$08       ?  SWIRES   =$01      ?  SWISEL   =$02      ?  SWITCH   =$0282
   TEMP1    =$EF       ?  TEMP10   =$F8         TEMP11   =$EC         TEMP12   =$ED
   TEMP13   =$EE          TEMP14   =$EA         TEMP15   =$EB         TEMP2    =$F0
   TEMP3    =$F1          TEMP4    =$F2      ?  TEMP5    =$F3      ?  TEMP6    =$F4
?  TEMP7    =$F5       ?  TEMP8    =$F6      ?  TEMP9    =$F7         TEST2    =$327F
   THREE    =$38A8        TIME64   =$0296       TIMER    =$0284       TITL11   =$32C8
   TITL12   =$32CE        TITLE    =$325C       TITLE0   =$32A0       TITLE1   =$32BF
   TITLE2   =$32EA        TITLE3   =$32F3       TITLE9   =$3303       TOP2     =$3012
   TOPOFF   =$3643     ?  TOPTIM   =$A9         TRACK    =$50         TRY1     =$3223
   TRY9     =$3236        TRYON    =$321E       TURN5    =$3203       TURNON   =$31C0
   TWO      =$38A0        TWODIG   =$302B    ?  UPD      =$00      ?  UPI      =$00
   UPPTR    =$3036        VOLTBL   =$37E7       WAIT5    =$3383       WHITE    =$0E
   WORDS    =$39AA        XTRADO   =$70         YCHRY    =$3E62       YELLOW   =$1A
   ZERO     =$3890
```

Symbol table - numerical order:

```
?  ATSYNC   =$00          BLACK    =$00         SCRCOL   =$00      ?  UPI      =$00
?  UPD      =$00          ATBLNK   =$01      ?  JOYBUP   =$01      ?  SWIRES   =$01
?  DOWND    =$01          ATWAIT   =$02      ?  JOYBDN   =$02      ?  SWISEL   =$02
?  RIGHTD   =$02       ?  ATHORC   =$03      ?  LEFTD    =$03         ATACTL   =$04
?  JOYBLT   =$04       ?  DOWNI    =$04         ATBCTL   =$05         ATACOL   =$06
   ATBCOL   =$07          ATFCOL   =$08      ?  JOYBRT   =$08      ?  SWICOL   =$08
?  RIGHTI   =$08          ATSCOL   =$09      ?  ATFCTL   =$0A      ?  LEFTI    =$0C
   ATFR0    =$0D          ATFR1    =$0E         WHITE    =$0E         ATFR2    =$0F
```

```
  ATSALA  =$10     ? JOYAUP  =$10       PLAY    =$10       ATSBLA  =$11
? BROWN   =$12       ATAWAV  =$15       ATBWAV  =$16     ? GOLD    =$16
  ATADIV  =$17       ATBDIV  =$18       ATAVOL  =$19       ATBVOL  =$1A
  YELLOW  =$1A       ATADAT  =$1B       ATBDAT  =$1C       ATENMA  =$1D
? ATENMB  =$1E       ATENFM  =$1F       ATSAIN  =$20     ? JOYADN  =$20
  DODEAD  =$20       ATSBIN  =$21       RED     =$22       ATASEL  =$25
  ATBSEL  =$26     ? ATFSEL  =$27       ORANGE  =$28       ATMVIN  =$2A
  ATREMV  =$2B       SELECT  =$30     ? ATJBA   =$3C     ? ATJBB   =$3D
? JOYALT  =$40     ? SWIADF  =$40       GAMOVR  =$40       TRACK   =$50
? PURPLE  =$68       XTRADO  =$70     ? JOYART  =$80     ? SWIBDF  =$80
  GAME    =$80       RESUM   =$80     ? ROUND   =$81       SCORLO  =$82
  SCORHI  =$83       FRAMEL  =$84       FRAMEH  =$85       AIDX    =$86
  BIDX    =$87       ADUR    =$88       BDUR    =$89     ? DIGINV  =$8A
  ALPHA   =$8B     ? CHERRYT =$8C       APFALL  =$8D       ANIM8   =$8E
  FCOLOR  =$8F       CHERRYC =$90     ? LBLUE   =$96       FR1L    =$98
  BLUE    =$9A     ? BOTTIM  =$9F       FR2L    =$A0       FR2R    =$A8
? TOPTIM  =$A9       MIDTIM  =$AD       FR1R    =$B0       LASTJY  =$B8
  MISLN   =$B9       MSBAND  =$BA       MISPOF  =$BB     ? MISDIR  =$BC
  DOBAND  =$BD       DIGBAND =$BE       DOPOF   =$C0       DIGPOF  =$C1
  DODAT   =$C3       DIGDAT  =$C4     ? DIGDIR  =$C6     ? DIGSPD  =$C8
? DIGTIM  =$CA     ? DIGIQ   =$CC       MUX     =$CE       APBAND  =$D0
  APPOF   =$D4       GREEN   =$D6     ? PWRTIM  =$D8     ? RANDOM  =$D9
  MODE    =$DA       DOINV   =$DB       PTR     =$DC       BAND    =$DD
  LODATA  =$DE       ADAT    =$E5       HIDATA  =$E6       APOF    =$E7
  TEMP14  =$EA       TEMP15  =$EB       TEMP11  =$EC       TEMP12  =$ED
  TEMP13  =$EE       LODATB  =$EF       TEMP1   =$EF       TEMP2   =$F0
  TEMP3   =$F1       TEMP4   =$F2       PD100K  =$F2     ? TEMP5   =$F3
? TEMP6   =$F4       PD10K   =$F4     ? TEMP7   =$F5       BDAT    =$F6
? TEMP8   =$F6       PD1K    =$F6       HIDATB  =$F7     ? TEMP9   =$F7
  BPOF    =$F8     ? TEMP10  =$F8       PD100   =$F8       PD10    =$FA
  PD1     =$FC     ? JOYDAT  =$0280   ? IOADIR  =$0281   ? SWITCH  =$0282
? IOBDIR  =$0283     TIMER   =$0284     TIME64  =$0296     BOTVI   =$202E
  BVISW   =$3007     INITSW  =$300E     TOP2    =$3012     OK2     =$301F
  TWODIG  =$302B     UPPTR   =$3036     NDIG    =$3038     LSTLFT  =$3052
  ANIM9   =$3054     NORK    =$3068     ORK     =$306B   ? SETRAM  =$307C
  ISA     =$3086     NORMAP  =$30C1     APRAM   =$30C5     APR50   =$30F1
  DIG12   =$3109     DIG13   =$3112     DIG15   =$3115     DIG17   =$3122
? DIG18   =$3127   ? APLFRM  =$312A     APLFR5  =$312F     DIG33   =$3144
  DIG40   =$3153     DIG45   =$3162     DIG50   =$3171     DIG60   =$317D
  DIG99   =$3189     COMPET  =$318C     COMP1   =$3191     COMP15  =$319A
  COMP2   =$31A2     CPETE   =$31AF     COMP3   =$31B2     CPETE2  =$31B7
  TURNON  =$31C0     FIRST   =$31CD     PTRBIT  =$31DE     PTRDON  =$31E7
  TURN5   =$3203     TRYON   =$321E     TRY1    =$3223     TRY9    =$3236
  APIMG   =$323C   ? MRDOIMG =$3248     MDPTL   =$3248     MDPTR   =$324A
  DIGIMG  =$324C   ? LETIMG  =$3252     TITLE   =$325C     ENDMID  =$325C
  GAMSPD  =$327B     TEST2   =$327F     ORKSCR  =$329D     TITLE0  =$32A0
  IMG5    =$32B6     TITLE1  =$32BF     TITL11  =$32C8     TITL12  =$32CE
  IMG6    =$32E1     TITLE2  =$32EA     TITLE3  =$32F3     TITLE9  =$3303
  HOLDUP  =$3312     HOLD7   =$3329     HOLD9   =$3340     NOTSEL  =$3353
  HOLD10  =$335B     DO1     =$3378     WAIT5   =$3383     ORCHARD =$338B
  ALFSET  =$33E0     NORM    =$33EF     NOPWR   =$3440     ICHERRY =$3442
  CHERRY5 =$345C     CDAT    =$3464     FTEST   =$346E     DOTIME  =$3477
  BAND1   =$34A2     NODO    =$34A9     MDON    =$34D6     MDPOF   =$34DA
  PWAIT   =$34E1     PW3     =$34E1     MUSIC   =$3507     MUS2    =$350E
  MUS5    =$3522     MUS15   =$3541     MUS25   =$354A     MUS50   =$354C
  MUS55   =$3564     MUS65   =$3583     MUS75   =$358C     SOUND   =$3591
  SND5    =$35A6     SND80   =$35BF     SND99   =$35C1     POSTBL  =$35C2
  TOPOFF  =$3643     BOTOFF  =$3653     CHRPOS  =$3663     AMUSFW  =$3673
? AS1FW   =$3673   ? AS2FW   =$36A4   ? AS3FW   =$36C4     AMUSVT  =$36D0
? AS1VT   =$36D0   ? AS2VT   =$3701   ? AS3VT   =$3721     BMUSFW  =$372D
? BS1FW   =$372D   ? BS2FW   =$375E   ? BS3FW   =$377E     BMUSVT  =$378A
? BS1VT   =$378A   ? BS2VT   =$37BB   ? BS3VT   =$37DB     VOLTBL  =$37E7
  SNDTBL  =$37EB   ? DEADSND =$37EB   ? BEEP    =$37F3   ? BOOP    =$37F9
? BELLS   =$37FF   ? CHER1   =$3807   ? CHER2   =$3814   ? CHER3   =$3821
? CHER4   =$382E   ? CHER5   =$383B   ? CHER6   =$3848     DATA1   =$3890
  DIGITS  =$3890     ZERO    =$3890     ONE     =$3898     TWO     =$38A0
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```
   DIGITS  =$3890     ZERO    =$3890     ONE     =$3898     TWO     =$38A0
   THREE   =$38A8     FOUR    =$38B0     FIVE    =$38B8     SIX     =$38C0
   SEVEN   =$38C8     EIGHT   =$38D0     NINE    =$38D8     BLANK   =$38E0
   SCORTB  =$38E8     SBIMG   =$3900     CHERRY  =$3900     MRDOLL  =$3922
   NULLB   =$3934     MRDORL  =$3944     MRDORR  =$3966     MRDOLR  =$3988
   WORDS   =$39AA     COLECO  =$39AA     PRESNT  =$39B0     MRDOT1  =$39B6
   MRDOTB  =$39B7     NULLTB  =$39BD     GAMETB  =$39C3     OVERTB  =$39C9
   LETTBL  =$39CF     REVTBL  =$39D5     SPRIT6  =$39DB     SPR6    =$39E7
   IMG1    =$3A00   ? APPLE0  =$3A00     APPLE1  =$3A00     APPLE2  =$3A0E
   APPLE3  =$3A1C     APPLE4  =$3A2A     APPLE5  =$3A38     APEND   =$3A3A
   DIGLR   =$3A4F     DIGLL   =$3A70     DUGLL   =$3A92     DUGLR   =$3AB4
   NULL1   =$3AE4   ? IMG2    =$3B00     DUGRR   =$3B00     DUGRL   =$3B20
   LETRE   =$3B49     LETRX   =$3B6A     LETRT   =$3B8B     LETRR   =$3BAC
   LETRA   =$3BCD     DATA2   =$3C00   ? LETTRS  =$3C00     LM      =$3C00
   LR      =$3C08     REVR    =$3C10     SMLR    =$3C18     LD      =$3C20
   LOH     =$3C28     LE      =$3C30     REVE    =$3C38     LX      =$3C40
   REVX    =$3C48     LT      =$3C50     REVT    =$3C58     LA      =$3C60
   REVA    =$3C68     LC      =$3C70     LL      =$3C78     LO      =$3C80
   LPR     =$3C88     LE2     =$3C90     LSE     =$3C98     LN      =$3CA0
   LTS     =$3CA8     LS      =$3CB0     NULL    =$3CB8     LG      =$3CC2
   LV      =$3CCB     POS     =$3CD3     POS10   =$3CE2     LETPOS  =$3CEC
   PAINT   =$3CFE     DLAY15  =$3D23     ASYM    =$3D2F   ? NPOSA2  =$3D5A
 ? NPOSB2  =$3D6A     ASYMB   =$3D76   ? NPOSA1  =$3D83   ? POSB1   =$3D99
   LATB1   =$3DA2     ASYMA   =$3DAC   ? POSA1   =$3DD1     LATCH1  =$3DE0
 ? NPOSB   =$3DE9     ASYMAB  =$3DFE     POSA    =$3E0B     LAT     =$3E19
 ? POSB    =$3E24     LATB    =$3E31     ASYMV   =$3E3C     YCHRY   =$3E62
   NCHRY   =$3E68     SDAT1   =$3E6F     MTEST   =$3E83     NOMIS   =$3E91
 ? SDAT2   =$3E94     MIS1    =$3EAC     MIS2    =$3EB7     CYCL41  =$3EBE
 ? ASYMD   =$3EC7     NUBAND  =$3EF5     FIN     =$3F06     POSI    =$3F3A
   INV2    =$3F5F     INV3    =$3F61   ? INVENT  =$3F69     DOLOOP  =$3F6B
   INVTBL  =$3F84     SCORE   =$3F8B     SCORE1  =$3FAF     SC4     =$3FB7
   END     =$3FFE
```